COIN-OPS, CARTS AND COMPUTER SOFTWARE REVIEWS

VIDEO GAMES™

PUTTING COLECO'S ADAM TO THE TEST

APRIL 1984
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WILLIAMS' DAZZLING STAR RIDER

SPECIAL
CONSUMER ELECTRONICS SHOW REPORT:
DISCOVER THE LATEST COMPUTER AND GAME DEVELOPMENTS FOR '84

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THE HOTTEST COIN-OPS REVIEWED:
NFL FOOTBALL, SPY HUNTER,
MAJOR HAVOC, MR. DO'S CASTLE

Hear at last. Games with

Alien annihilation never sounded so good.

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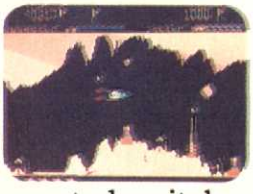
You'll find out what planet you're on.

What the fuss is all about.

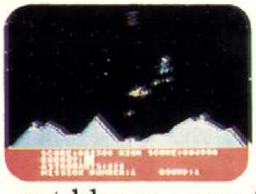
Why you're involved.

And perhaps of singular importance to you, how to keep from being obliterated.

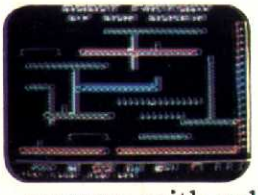
real music for your Atari.*



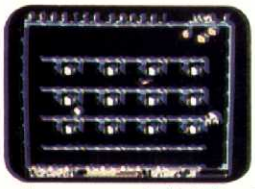
Our star. Our Numero Uno. The Tail of Beta Lyrae.™ Changes as you play. Will drive you out of your mind with unexpected switcheroonies. No one's ever mastered it. But you sure can try...



And then there's Cosmic Tunnels.™ Four games in one. Meaning four times the challenge. Four times the chance you might just get blown away. The graphics are sure to blow your mind!



Mr. Robot and His Robot Factory.™ Looking for a factory job? Here's an opening. Help Mr. Robot thwart the aliens. Screens scream with color, action and sound! Plus, a graphics kit to design your own game screens!



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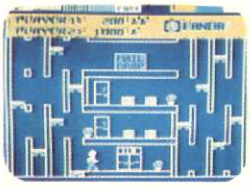

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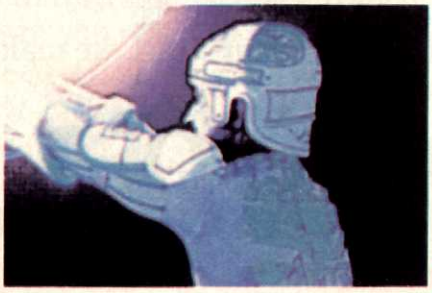

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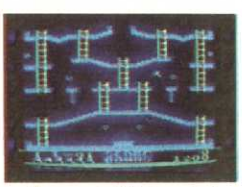
Cover Illustration Courtesy of Williams Electronics

JUMPMAN'S A GREAT GAME. BUT YOU'VE GOT TO WATCH YOUR STEP.



Meet the Alienators. A fiendish bunch who've planted bombs throughout your Jupiter Command Headquarters.

Your job? Use your lightning speed to scale ladders, scurry across girders, climb ropes and race through 30 levels to defuse the bombs before they go off.

That's the kind of hot, non-stop action we've packed into the award-winning,* best-selling Jumpman,™ and into Jumpman Jr.,™ our new cartridge version with 12 all-new, different and exciting screens.

Both games force you to make tough choices. Should you avoid that Alienator, climb to the top and try to work your way down, or try to hurdle him and defuse the bombs closest to you before they go off?

If you move fast you'll earn extra lives. But if you're not careful, it's a long way down.

So jump to it. And find out why Jumpman and Jumpman Jr. are on a level all their own.

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HYPERSPACE

I suppose that my biggest surprise when the Consumer Electronics Show started were the number of people in the industry who came up to me wondering if we were going to change the name of the magazine. Given the fact that so many other publications in the field had already done this, it seemed like a natural question to ask. But unlike much of our competition, *Video Games* remains committed to the belief that video isn't a dead issue. We aren't about to abandon the ideal that you, the readers, don't need a single, comprehensive source which will bring you the latest news and developments in the world of coin-op; trends and directions in the area of home video; as well as in-depth reviews of the newest computers and software for the most popular systems.

Another issue which arose was whether *Video Games* was going to change its frequency and become a bi-monthly, or suffer the same fate as so many other similar video magazines which have gone out of business. Well, not only is *Video Games* here to stay, but you'll also find us still bringing you up-to-date information on all areas of video and computer fun each and every month.

And since we recognize and appreciate the support you've shown for what *Video Games* has been delivering each issue, we wanted to do something in return for our regular readers as well as those of you who might be discovering us for the first time.

With the appearance of laserdisc games having increased the price of arcade play almost across the board, as well as the latest home cart and computer game software titles showing very little decrease in cost, *Video Games* wants to offer you even more value for your money. Beginning this month, we've not only reduced the cover price of *Video Games*, but also the cost of a year subscription. And although we're cutting back how much you have to pay for *VG*, we're not going to be giving you any less than what you've come to expect from *Video Games* every month.

In fact, this time around we're bringing you an exclusive, advance look at a sensationally innovative laserdisc game from Williams Electronics. Beginning on page 24, we'll put you behind the controls of Star Rider and a fantasy world unlike any you've ever seen before.

The Consumer Electronics Show has become a biannual spectacle where the spotlight is on technological advancements and potential breakthroughs which, often, set the pace for what we'll be seeing in the future. This time around was no exception and *VG* takes you down the aisles of the Las Vegas Convention Center for a bird's-eye view of what took place. (page 30)

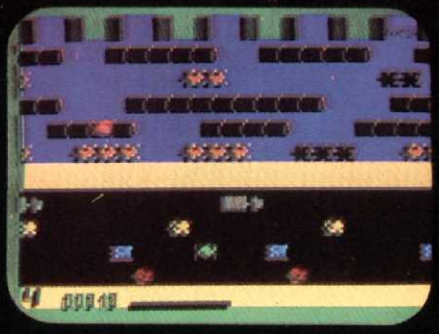
In addition, contributing editor Mark Brownstein offers his initial findings and reactions to an early production model of Coleco's long awaited ADAM. Is the system all that it was cracked up to be when it was originally introduced? Find the answers in this month's "Hard Sell" on page 70. There's all this and more in your single monthly source for keeping ahead of the video game scene. Enjoy, and we'll see you next month.

Roger C. Sharpe

ATARI 5200

TI99/4A

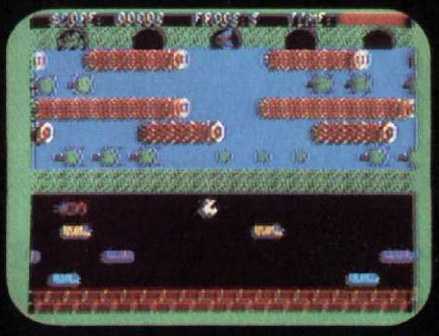
ATARI 400/800/600XL



INTELLIVISION

COMMODORE VIC 20

ATARI 2600



COMMODORE 64

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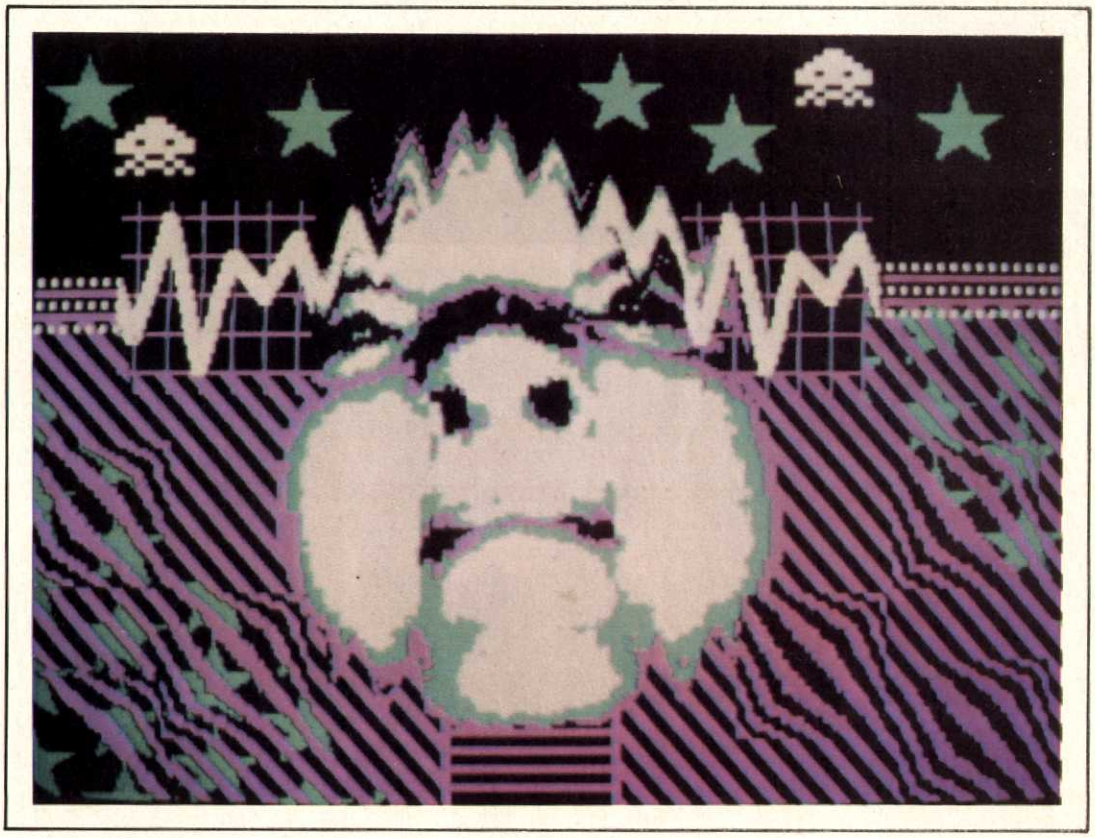
BLIPS

Five Bytes To A New You

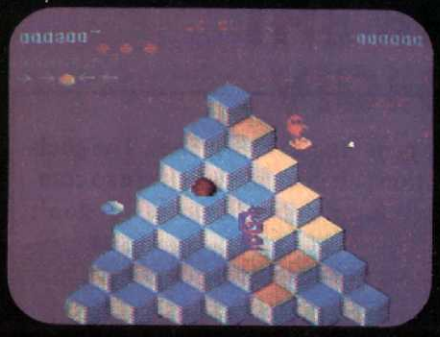


It used to be that if you were unhappy with your looks, you had but one choice: Undergo plastic surgery at a cost of several thousand dollars. Now, if you happen to be within the vicinity of the Ontario Science Center in Canada, you can save yourself quite a few dollars by checking out Warpitout, a new computer "game" that offers a technological spin off on the old fun house mirror.

Housed in a cabinet, Warpitout begins by activating a video camera, concealed within the cabinet, which instantly digitizes your face and displays it on the screen. Then, using the standard joystick/action button combo, you cycle through a series of menus that offer a wide variety of options. Colors can be assigned to the initial black and white image, portions of the picture may be enlarged, or rippled, or overlayed with a series of randomly generated bubbles. When your image has been manipulated to your satisfaction (or dissatisfaction) you can then add on a few finishing touches. How about parking an alien in your hair, or hanging a space shuttle from your ear? Add on a checker board perhaps, or possibly some concentric circles for a background and *voila*: You have the kind of face only a mother could love.

According to computer artist Jane Veeder, Warpitout was created to use the general public's familiarity with video games, coupled with the fascination of seeing one's own face on television, in order to introduce people to the realm of computer generated image manipulation. "With Warpitout, I'm using the universal appeal of your own face as a pretext to indulge in computer graphics more directly than you get to do with a commercial video game, where you're interacting with a finished product in restricted ways.

"The initial thing is to rope people into playing it because, you know, it's everyone's favorite image. I take advantage of the fact that people know how to operate joysticks and buttons. The main difference is that this is



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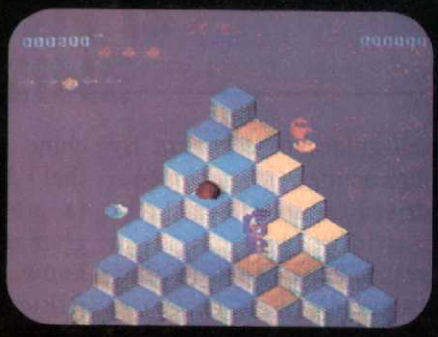

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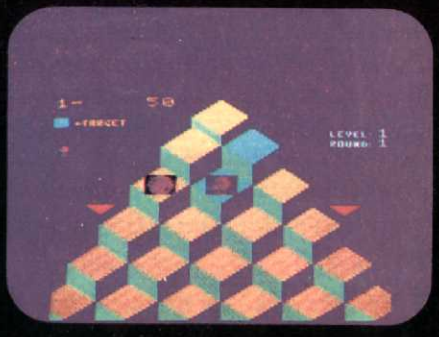
INTELLIVISION



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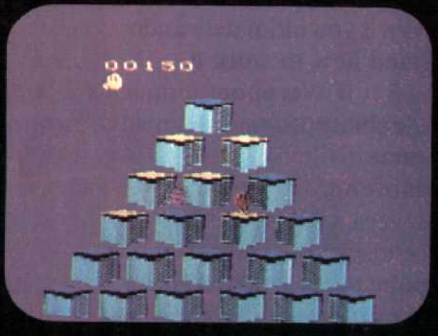

ATARI 2600

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HOW TO GET Q*BERT™ OUT OF YOUR SYSTEM.

If you've been wanting to play Q*bert, but haven't been able to find it available for your home system, your time has come. Because now you can keep things hopping with any of these popular home video and computer formats.

Get going to your nearest video store and get Q*bert today. And while you're there, check out Parker Brothers' POPEYE,® FROGGER,™ TUTANKHAM,™ and SUPER COBRA.™ All the great Arcade Action® games, now in all the great home formats.

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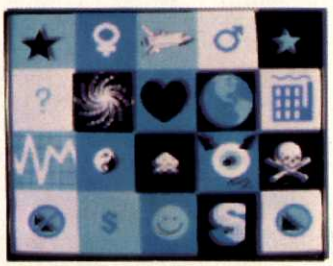
self-guided exploration. By interacting with the menu-driven capabilities that I've provided, you can teach yourself how to do it. You're making the visual decisions. It's sort of a progressive revelation process, whereby if you keep on interacting with it you ultimately understand how to work it.

But if Warpitout imitates the ability of a regular arcade game to hook a player by allowing the person to discover how it operates as it is being played, Jane is quick to point out that there are striking differences, both in design and intent, between her creation and what you might find in any game room. "The system I use is based on video game hardware. There are not really many capabilities in Warpitout that your average Wizard of Wor machine couldn't do. Except that I did it by using Z-Grass (a graphics oriented programming language). As you know, most video games are written in assembler code, or something pretty close to it, and the people (who design them) work in these fragmentary roles. They're in teams, but usually the artists don't know how to program, and the programmers don't deal with the visual stuff. But Z-Grass really makes possible an artist-intergrated project like Warpitout.

"(In the arcade) even the games that have nice animation, like Professor Pac-Man, for instance, go so fast that you don't really get a chance to enjoy the visuals. Warpitout gives you a much different sense of interactivity. There's this thing of a computer's capability of doing real-time geometric processing. A lot of the options are sort of cute, funny little things but there's real loose, explorational, visual space that you can use to start fiddling around with things. It's one of the wonderful things about computer graphics as compared to, say, doing it with colored pencils."



Don't expect to see Warpitout in your local arcades, though. "It was considered as a commercial game for about three weeks," says Jane, "but it's really on a different temporal planet than most video games. The goals behind its design are so completely different. I don't think most video game companies are into computer graphics, they're into entertainment, and if they thought they could sell a game with white mice inside, they'd do it."

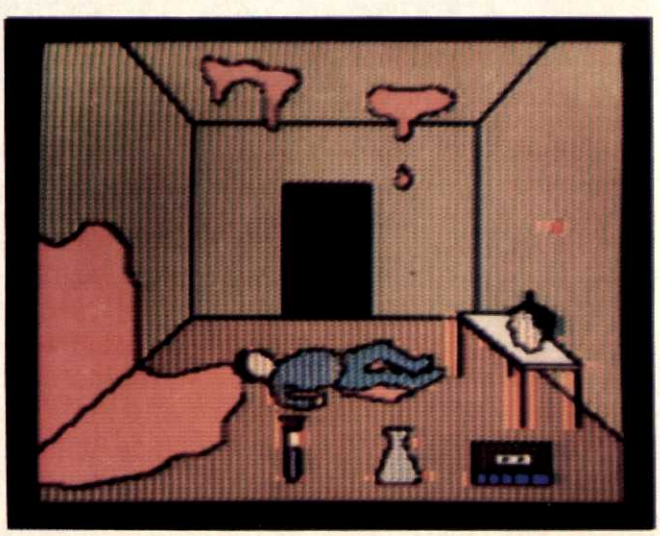
So for now, Jane is content to have one Warpitout machine on tour throughout the United States and another on permanent exhibition at the Ontario Science Center. "One of the wonderful things about the Center is that they pipe a million school kids through that place every year. Kids have a great feeling for computers in general, but I expect to meet somebody in twenty years who got into computer graphics because they played Warpitout as a kid." —*Dan Persons*

Getting Crypt-ic

Apple computer owners beware! A new high-resolution adventure program is about to take you through a world of underground terror. From Sir-Tech Software, Crypt of Medea feature 3-D color graphics and text animation for an involving and challenging experience that differs from many other adventure games.

Besides a full range of sound effects and musical accompaniment at various stages of play, Crypt of Medea allows for multi-word commands to be typed in, rather than strictly noun/verb directions. In addition, mockingboard capability has been programmed in, which lets the game 'talk' to you during the action. An intricate, problem solving computer game, Crypt of Medea is available for about $35.

—*Ellen Cammeyer*



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BLIPS

Learning Is *FUN*damental

It's going to be kid's play with the announcement by Apple Computer of sixteen new computer games developed by Children's Television Workshop, the creators of Sesame Street. For use by children aged 4 to 13, the "Discovery Games" series features colorful, animated characters, including the familiar Muppets, and a range of sound effects to encourage youngsters to practice reading, improve problem-solving and motor skills, and use their creative abilities.

Four Discovery Games packages (about $50) contain four games which test a variety of different skills. In addition, activity booklets of ideas for use with each game are included to further exercise a child's imagination and creativity. The programs run on 48K Apple II or Apple II+ Systems with one disk drive.

—Ellen Cammeyer

In A Spin

Looking for unpredictable action? Well, Randamn may just be the game you've been waiting for. Providing seven HiRes worlds of seven levels each, this new title from Magnum Software (for Apple II/II+/IIe owners) features an innovative Mystic Slot Machine which spins to decide your randomly selected opponents at any given level of play. Any combination of up to seven different adversaries are possible as you strive to become the powerful Demi-god of the universe. Using Graphictron animation, Randamn costs about $35.

—Ellen Cammeyer

The "A" Teams

Two fierce rivals in the home video market, who have not been without their share of legal battles in the past, have, at least for now, decided that there may be something to offer if they team up. Scheduled for a market test in the first half of 1984, Activision and Atari have formed a joint venture company to distribute software electronically to the home.

The plan centers around the upcoming service to use broadcast technology as a way to transmit software to a home receiver. This unit would then be plugged into a video computer system through which available software could be accessed.

Besides titles from both Activision and Atari, the proposed electronic distribution service would also provide releases from other companies. Depending upon initial acceptance, look for the project to expand by the end of the year.

—Ellen Cammeyer

A Healthy Start

Although they may have previously been better known for an outstanding array of game software, Synapse has announced the creation of something totally different. It's the introduction of a series of personal healthware programs for Atari, Commodore, Apple and IBM home computers. The first title, Relax, is a stress reduction system which uses biofeedback to allow you to monitor your muscle tension as it is represented graphically on your monitor screen.

Available on disk, cassette and cartridge, a Relax workbook is also included to help you better understand your reactions to stress and how you might manage it and even reverse the process. In addition an audio tape, which comes with the package, provides a guided deep relaxation exercise that combines progressive relaxation with meditative techniques.

Rounding out this unique computer software release is a special, Relax headband which features three tiny sensors. Once in place, the band aids in giving accurate measurements of muscle tension via a biofeedback method called electromysograph. So if playing too many computer games has gotten you overly tense, Relax might be just what you need to calm down and get back in control.

—Ellen Cammeyer

BLIPS

Star Struck

Back in 1982, Fernando Herrera was the winner of the first Atari Star Award for his program "My First Alphabet." Not long after this, Herrera and his newly formed company, First Star Software, introduced their first computer game, "Astro Chase," which received many awards of its own. Now First Star is back in the news with the announcement that Warner Software, Inc. (a subsidiary of Warner Publishing) has acquired a substantial interest in the company. The result is that although First Star will continue to operate independently, look for some team efforts which should considerably broaden the range of products we'll undoubtedly be seeing from Herrera's design and engineering forces.

—Ellen Cammeyer

Computer Age Dry Cleaning

If you own a computer system with all the trimmings and have sometimes wondered about routine maintenance and care, Discwasher has recently released a product which should clear up some of your worries about your disk drive. Named the Clean Runner, this new combination program/cleaner helps to remove any dirt build-up on disk drive heads.

Recognized as one of the leading suppliers of audio/video accessories, Discwasher has taken extreme care in the research and development of their Clean Runner in order to make sure that the product is completely safe with the delicate inner workings of any disk drive unit. A dry cleaning system which needs less than thirty seconds to complete its task, the Clean Runner utilizes a lint-free cleaning surface that's bonded to a polyester diskette. Once inserted, its exclusive program directs the head(s) of a computer's disk drive to a different track.

The Clean Runner can be used for both single-sided or double-sided drives and is programmed for 20 cleaning operations. It costs about $25. *—Ellen Cammeyer*

Wrist Watching

It might seem more believable in a science fiction tale, but anything appears to be possible with the announcement by Hattori Seiko Company of Japan that it plans to make available the world's first wristwatch-type computer system. Composed of three elements, the wristwatch operates as a normal timepiece, but also features a memo display capacity of 2,000 characters. In addition, the watch's liquid crystal panel can show graphic patterns as it displays data on a full-dot matrix which utilizes 1,400 picture elements.

Another component part of this futuristic system is a keyboad that's small enough to fit in a shirt pocket, while rounding everything out is a larger scale processor. According to the company, this small wonder can calculate, retain memo data, carry out basic program applications and print out data. Coming your way this year, the total system is tentatively set to cost about $230.

—Ellen Cammeyer

Game Over

In a ruling that could have far-reaching repercussions elsewhere around the country, the city of Marshfield, Massachusetts, has enforced a ban on the operation of coin-op video games. The decision, which took effect at the end of November, ended a legal battle that has raged since June of 1982. Although the case reached the point where it was presented before the United States Supreme Court, the highest court in the land failed to reach necessary agreement for the issues to be reviewed. Involved with the proceedings were interpretations of the basic principles provided under the First and 14th Amendments to the Constitution.

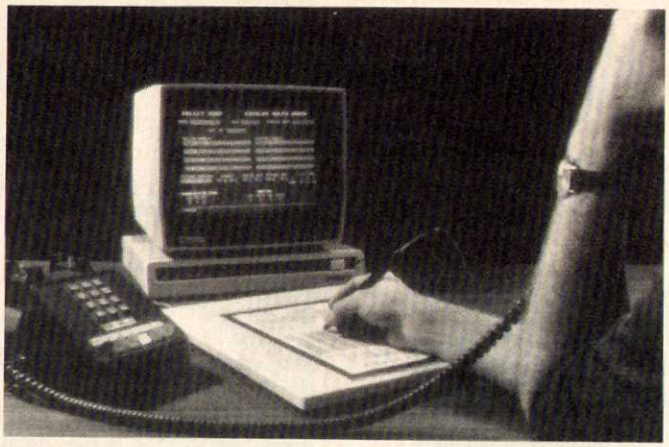
To those video game players of Marshfield we can only say we're sorry that in 1984 there are still a number of individuals who question the attributes of an entertainment form that offers good, clean fun and nothing else. Who knows? Maybe down the road the people who have this vendetta against video games and other coin-op amusements, will finally see the light and accept these creations without inflicting their own personal prejudices and misconceptions on the rest of us.

—Roger C. Sharpe

BLIPS

Handy Pen Pal

Up until now, the only way to get information into the computer has been to type it in via the keyboard. For those non-typists this has been an endless, hunt-and-peck hassle. Well, say goodbye to the keyboard! It's finally possible to write directly into the computer through the use of Penpad. Penpad uses Dynamic Character Recognition (DCR), which converts handprinted information directly into computer code. Immediate recognition of handwritten characters is one trait of Penpad. As letters



and numbers are written, they are analyzed and then displayed on the monitor. A mistake? No problem, just write over the mistaken character and Penpad will automatically correct the error.

This new addition to the computer world is available for both the business world and for the home computer user. It is available in two models, one which attaches to most mini-computers for the work environment and the Personal Penpad, for personal home computer use.

For those who have handwriting that can be read by humans, whether left or right handed, European or American styles, this computer development can not only be a time and money saver, but also a sanity saver!

—Melinda Glass

Getting Graphic

On July 23rd to the 27th, in Minneapolis, Minnesota, the Eleventh Annual Conference on Computer Graphics and Interactive Techniques will take place with a vast array of exhibit offerings celebrating the art and application of computer graphics. Sponsored by the Association for Computing Machinery's Special Interest Group on Computer Graphics (ACM SIGGRAPH), the proceedings are guaranteed to be a sight to behold.

At this point in time the initial planning includes up to 30 one or two-day courses; three days of refereed technical paper presentations; panels on topical computer graphics issues; a design arts show; evening film and video presentations as well as much more. If you've got an eye for what's happening currently, or want to get a vision of what to expect in the future, you can get registration information by contacting the SIGGRAPH '84 Conference Office (111 East Wacker Drive, Chicago, Illinois 60601, (312)644-6610).

—Ellen Cammeyer

A First For Jr.

Former 2600/ Intellivision software heavyweight Imagic is designing the first independent software for the IBM PCjr computer. The first release will be the highly acclaimed Demon Attack game, an Imagic slide-and-shoot blockbuster that pits the player's spaceship against hostile space warbirds that have an incredible variety of attack styles.

Imagic will have their software released through another company, now that they have ceased manufacturing games and have become a design house. IBM has cooperated with Imagic by giving them necessary information on the PCjr before the machine went public in exchange for Imagic's vow of discretion in regards to the then unannounced Junior. Imagic will make more PCjr cartridges after Demon Attack, which should hit the software stands at the same time the Junior becomes available. At this point, Imagic hopes to be a major supplier of PCjr software in the future. So stay tuned. *—Mike Sittnick*

Coleco Gets Scarry

You never know what's going to happen next with this West Hartford, Connecticut company. There might be a computer which sends an industry on its ear, or a unique Cabbage Patch doll that caused a sensation during Christmas. Blink your eyes for a minute, and the next thing you know they've gained the rights to Dr. Suess, Smurfs, the Berenstain Bears and even Dragon's Lair. Well now Coleco has gained the exclusive, worldwide rights to manufacture and market home video games and computer software based on the famous characters and children's stories of Richard Scarry.

The licensing agreement teams up Coleco with a renowned author of over 200 children's books, including Richard Scarry's *Please and Thank You Book, What Do People Do All Day, Best World Book Ever* and *Best Mother Goose Ever.* In all, over 100 million copies of Scarry's books have been sold, including translations in 26 languages. So get ready. Obviously, this is only the beginning of yet another story. *—Ellen Cammeyer*

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STATS

Top Ten Home Games

Present Position 1/21/84	Last Position 1/7/84	Weeks on Chart	Game
1	1	23	Q*bert (Parker Brothers)
2	3	23	Pole Position (Atari)
3	5	11	Popeye (Parker Brothers)
4	2	47	Ms. Pac-Man (Atari)
5	12	11	Dig Dug (Atari)
6	11	71	Frogger(Parker Brothers)
7	10	27	Jungle Hunt (Atari)
8	14	29	BurgerTime (Intellivision)
9	8	43	Centipede (Atari)
10	21	9	Joust (Atari)

© 1983 by Billboard Publications, Inc. Reprinted by permission. These are the best-selling video games compiled from outlets by the Billboard research department.

Top Arcade Games

	Percentage
1. M.A.C.H. 3 (Mylstar)	100.0
2. Dragon's Lair (Cinematronics)	95.3
3. Track & Field (Konami/Centuri)	92.3
4. Pole Position II (Atari)	84.3
5. Pole Position (Atari)	68.5
6. Star Wars (Atari)	66.3
7. Elevator Action (Taito)	63.7
8. Donkey Kong 3 (Nintendo)	62.0

Provisionally rated:

1. Astron Belt (Bally/Midway)	90.6
2. Birdie King (Mama Top)	75.8
3. Discs of Tron (Bally/Midway)	70.4
4. Cliff Hanger (Stern)	60.3

These are the top earning arcade games according to a poll of operators. Provisionally rated games had a response rate of less between 10 and 25 percent. © 1983 by Play Meter Magazine

HIGH SCORERS

(effective 1/25/84)

Baby Pac-Man	6,685,130	Richard Sattilaro Edison, N.J.
Bagman	6,840,850	Gerry McCloskey Pentleton, B.C. Canada
Black Widow	926,050	David Rotramel Overland Park, KS
Buck Rogers	1,016,495	Kelly Keenan Santa Maria, CA
Bump'N'Jump	2,413,182	Bob Hastings Lansing, IL
BurgerTime	5,944,700	Steve Shepard Santee, CA
Bubbles	1,364,360	Mark Bersabee Milpitas, Ca
Congo Bongo	883,400	Tom Collum Nacagdoches, TX
Crystal Castles	857,689	Eric Ginner Milpitas, CA
Champion Baseball	1,130,560	Gus Papas Upland, CA
Defender	76,377,300	Burt Jennings Futhsom, N.C.
Dig Dug	4,129,600	Ken Arthur Blackburg, VA
Donkey Kong Jr.	1,259,300	Calvin Frampton Pleasant Grove, Utah
Dragon's Lair (3 men)	370,954	Kevin Crane Tulsa, OK
Elevator Action	60,500	Mike Ward Madison, WI
Frontline	727,500	John Dunlea Wilmington, N.C.
Gorf	2,220,000	Jason Smith Midland, TX
Gravitar	4,722,200	Raymond Mueller Boulder, Colo.
Gyruss	28,015,900	Dave Wissman Cincinnati, OH
Joust (new chip)	101,192,900	Robert Gerhardt Lloydminster, Alberta, Can.
Jungle Hunt/King	1,510,220	Michael Torcello East Rochester, NY
M.A.C.H. 3	307,300	Alan Pearson Wilmington, NC
Mario Bros.	1,202,210	Spencer Ouren
Millipede	6,995,962	Jim Schneider Santee, CA
Ms. Pac-Man	699,290	Chris Ayra Ft. Lauderdale, FL
Pac-Man Plus	3,213,900	Shannon Ryan Upland, CA
Pole Position	66,960	Les Lagier, Mike Klug (tie) San Jose, CA
Popeye	1,439,430	Orlando Diaz Humaco, P.R.
Professor Pac-Man	999,990	Greg Gunter Peoria, IL
Q*Bert	33,273,520	Bob Gerhardt Lloydminster, Saskatchewan Ca.
Rally-X	1,202,730	John Pomerenke Okabena, MN
Robotron	511,834,625	Robert Bonney Kirkland, WI
Satan's Hollow	17,811,250	Mike Ward Madison, WI
Star Trek	1,067,500	Tom Collum Dayton, Ohio
Star Wars (6 shields)	52,041,781	Dave Palmer Rocklin, CA
Sub Roc	431,900	Timothy Tomastik Santa Maria, CA
Super Pac-Man	588,430	John Azzis Santa Maria, CA
Tutankham	1,736,140	Mark Robichek San Jose, CA
Track & Field	89,970	Mark Sellers Grand Rapids, MI
Xevious	999,990	Don Morian Seattle, Washington
Zoo Keeper	14,049,570	Bill Channam East Lansing, MI

Our thanks to Walter Day Jr., of Twin Galaxies International Scoreboard (228 East Main St., Ottumwa, Iowa 52501). Readers who think they might have a high score should send a self-addressed, stamped envelope to Walter Day who will forward the necessary information and forms. Cities given are the location where the high scores were achieved.

WE WANT YOU!

To put your joystick down long enough to fill out this questionnaire. Tell us what you like and don't like in the arcades, at home and about this magazine. Then rip (or photocopy it) and send it to us pronto at this address: *VIDEO GAMES* Magazine, 350 Fifth Ave., Suite 6204, New York, New York 10118.

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Favorite Feature article: _____ Favorite Blip: _____

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What I'd like to read more of: _____

What do you think of Interview: _____

How does this issue of *VIDEO GAMES* compare to previous ones?

The same _____ Even better _____ Best so far _____ Never mind _____

Why? _____

Other than *VIDEO GAMES* which magazines do you read? _____

Hobbies: _____

GAME AND COMPUTER SECTION

How much money do you spend on video games per week? _____

Favorite new game: arcade _____ home _____

Biggest disappointment: arcade _____ home _____

What home game system do you own? _____

How long have you owned it? _____

How many hours per week do you play? _____

If you would get another system, which would it be? _____

What home computer system do you own? _____

How long have you owned it? _____

What peripherals do you own? _____

What is your favorite software/game or otherwise? _____

If you would get another system, which would it be? _____

How much computer software and/or video games do you buy each month? _____

Do home and arcade game ads/computer product advertising in *VIDEO GAMES* influence your purchases and selections? _____

What influences you in buying a video game/computer software?

Magazine/newspaper ads _____ Radio _____ TV _____ Word of mouth _____ Other _____

Does reading an article in *VIDEO GAMES* influence your video game/computer software purchases? _____

How did you get this issue? Subscription _____ Newsstand _____

Double Speak

Too Much Violence?

The grisly melting face in the Bega's Battle article (December '83) is a prime example of the main thing wrong with laserdisc video games: The incredible violence. If anti-video game forces were looking for an argument, they now have one. The violence and mayhem in Dragon's Lair, Cliff Hanger (based on a Japanese series and thus quite in line with the intense emphasis on violence and gore in Japan), Space Ace and Bega's Battle, is not symbolic but graphic and realistic. In addition, too much time is spent just looking at the movie playing (especially in Cliff Hanger, where almost a minute may pass between the need to make the right control movement).

Aside from that, the potential of videodisc computer-controlled cartoons is not being realized; one would fairly jump at the opportunity to run a cartoon where you could control the actions of the main character, to decide where he goes right and meets his girlfriend, or goes left and winds up fighting a kangaroo. Within one cartoon one can be thus entertained a hundred ways. The goal will not be one set object, but to put the character through scores of different situations. Instead of characters like Dirk the Daring (but far from fearless), Cliff Hanger, Space Ace, and Bega's we ought to have Warner Brothers put all the old characters through new, well-drawn situations. I'm talking about bringing back full animation, not the minimal animation angular characters, and sketchy backgrounds that get constantly cranked out by Hanna-Barbera *merely* to *flood* the market with mediocrity and slop.

Also why is everybody acting as if this programmable movie business is a new thing? I saw such things way back in 1964, at the World's Fair, where a huge video machine ran several booths of the same game at once: A cross-country auto race, where your decisions and timing determined whether you hit the erratic driver, got hit by the train, etc. No lives were lost, but wrong decisions cost you time. I participated, I did not win, but I enjoyed the game. The winner got a prize. I was happy just to try it out. There were also no blank-outs while the computer switched to the proper film to show the results of your response and timing.

I do not think that videodisc games are going to drive the computer games out of the arcades, just like they did the pinball games.

Incidentally, you arcade gamers out there. If you take the time to read over the instructions, I can't take the time to watch you play, because you obviously haven't played that game before and are not to do good at all. Same for you guys who lose two men in quick succession or who make the same mistake in Cliff Hanger six times in a row!

Paul R. Wilson
New York, New York

A Devoted Reader

One of my friends recently showed me a *Video Games* issue and ever since then I've been a devoted reader.

I myself own the ADAM computer and in my opinion think it's the best and most advanced computer-game player that doesn't cost over a $1000. It comes with the super game Buck Rogers which has all the screens of its arcade cousin.

I feel that all of the recent anti-ColecoVision letters published in Double Speak are knocking my system as well since both the ADAM and ColecoVision are compatible systems.

The ADAM computer has much more memory than the 5200. Coleco promised all their games would have the intermissions of the arcade games along with all the screens and all the bonuses.

Chris Renfro
Hinchley, Ohio

A Work of Art

Recently I read an article that said Coleco was coming out with a laserdisc attachment for ADAM that only costs $150. The article also reported that the home version was supposed to use the

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same disk that the arcade game Dragon's Lair uses. If this is true, the consumer is really getting quite a deal just paying $150 when you consider that some arcade owners are paying up to $1000 per machine in the arcade.

The player isn't supposed to be out for about four or five months because it was in a contract between Coleco and the company that produces Dragon's Lair that Coleco wouldn't introduce it until popularity for the arcade game died out. This is understandable because instead of paying two tokens or quarters per play in the game room, you could go out and for $150 buy an exact replica of the arcade game—absolutely nothing sacrificed.

I am really convinced that the Smart-Writer word processor on my ADAM is by far the best microcomputer on the market by a wide margin. The data pack drive is really a great mass storage method and the basic is one of the most powerful and popular on the market in that it is identical to AppleSoft BASIC. The word processor is really pretty powerful, and that's coming from the mouth of my father who uses a $5000 computer with a $250 word processor. He says SmartWriter will do anything the word processor on his computer will do. He also says he will probably start to do some of his research papers with SmartWriter. That speaks highly of SmartWriter.

The printer is a "work of art." It keeps super straight margins and even line spacing. It has excellent print quality and can handle subscripts and super-scripts which my father's $1000 printer he prints his reports out on can't do. But, the printer comes with a rather cheap multistrike film ribbon and you sometimes don't get very dark printing.

Also, for people who are planning to buy ADAM, the manuals which come with the computer only tell a fraction of what the thing can really do. It would be a good idea for any new owner to go out and get an AppleSoft BASIC manual and start learning to program from that. Regarding SmartWriter, experiment with it and you'll discover features not outlined in the manual. At first, I thought it was a pretty limited word processor but later I found out just how powerful it really was.

Kevin Gamble
Huntsville, Alabama

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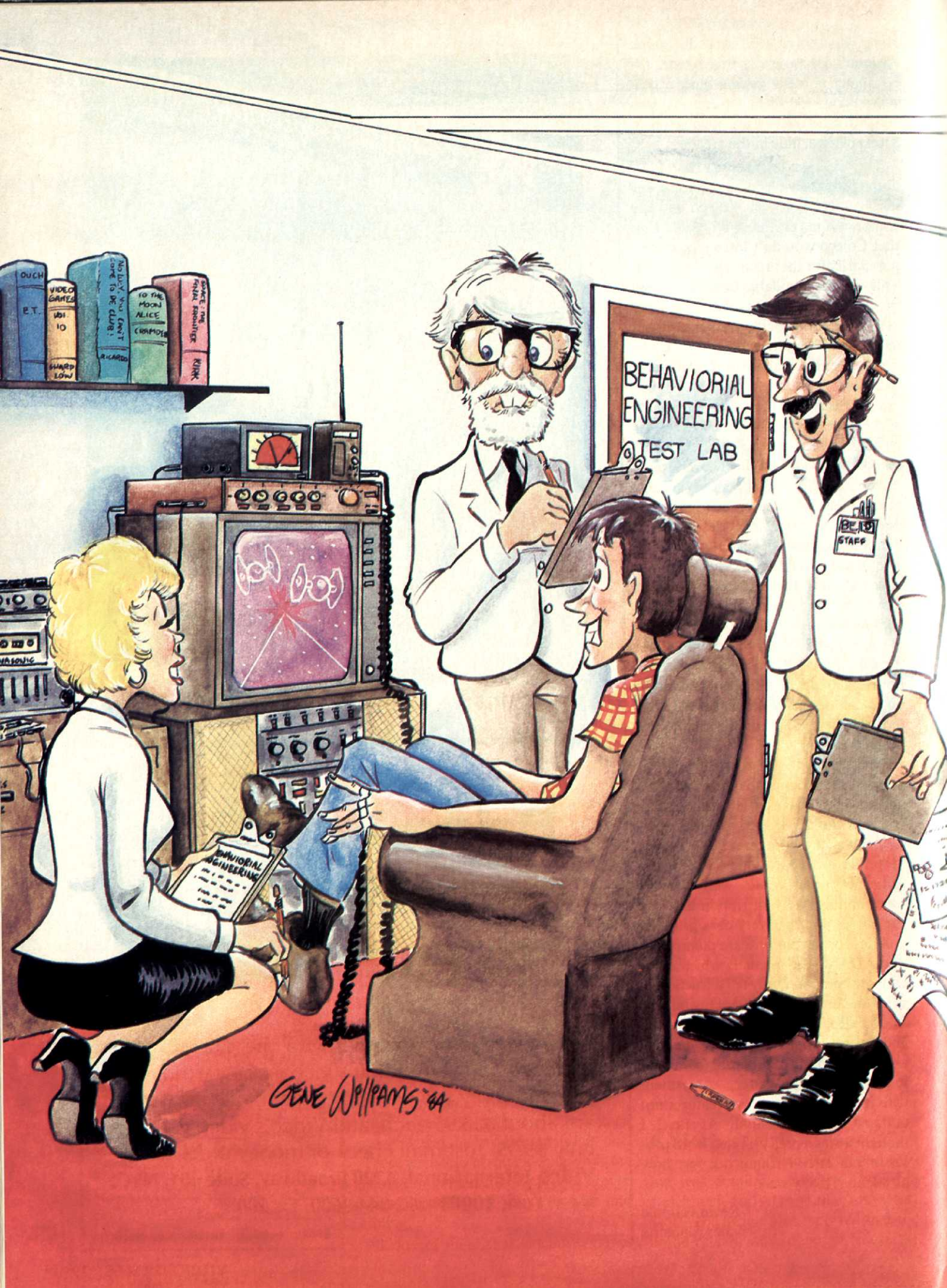
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MIND OVER MATTER

New Controls For New Video Goes One Step Beyond!

By Mary Claire Blakeman

Forget joystick callouses. In fact, one day, joysticks may be a part of video game history. The reason is a new approach to video game play that can literally put control of the game not just directly into the hands of players, but really into one's fingertips to be more exact. It is a process similar to the one used in lie detectors and biofeedback machines based on the GSR, or galvanic skin response. Behavioral Engineering is developing this rather revolutionary controller.

The company, a computer software firm located on the edge of California's Silicon Valley, gets some of its inspiration from things such as Einstein's vision of gliding on the end of a beam of light. In fact, the father of the relativity theory is featured in the company's logo. In practical terms, Behavioral Engineering is pushing the edges of research into educational uses for computers, ideas in therapy, and new ways of presenting video games.

When the GSR device is plugged into a home computer using the standard game paddle port, it allows players to control a game by the level of tension conducted through the ends of the fingers. To play, a person simply rests his or her hand on a gently grooved piece of molded plastic. When the player touches two conductor strips, the computer picks up the signals of the autonomic nervous system and translates them into action on the game screen.

Some describe this process as everything from using mind over matter to employing "The Force" as Luke Skywalker did in *Star Wars* . Actually, the GSR uses changes in skin conductivity which are caused by the opening or closing of pores and sweat glands in maintaining body temperature.

It may not seem like these functions could be consciously controlled (except perhaps by Himalayan holy men), but the amount of tension or relaxation a person experiences can change the GSR, and the activity on the video game screen.

"One of the first barriers for people is when they wonder, 'Am I controlling it?'"says Robert Dilts, president and one of the founders of Behavioral Engineering. "But rather than trying to think in terms of controlling it, the more spontaneous you are, the more reaction you will get from the game."

The GSR controller (which did not have an official name at press time, although "Touchstone" was a leading contender), is more sensitive than standard biofeedback mechanisms, Dilts says. So it picks up very subtle changes in the amount of tension in a person's body.

"When someone is tense or excited the heart, pulse and breathing rate increases and temperature goes up," Dilts explains. "When that happens, the pores open and sweat glands work to cool the body down. Then, the skin conducts electricity better. In the opposite case, when a person relaxes, energy decreases, pores close and the skin is less able to conduct electricity."

Already, during testing of the device, some players have developed their own personal style of mastering games with the GSR controller. Some people use it with their eyes closed and Dilts himself has even tried playing games with his toes. "And there's one kid who says he just imagines he has a joystick in his hand," Dilts says. " So when he would normally pull up on the joystick, he just imagines he's done that and the space ship on the screen goes up."

"But it's not just brain impulses," Dilts adds. "It really doesn't have anything to do with brain waves. It's really your physical reaction to a thought, and any number of things can affect that."

Among the factors that can change the galvanic skin response are blood pressure, breathing, and, with the video game device, the amount of pressure one applies through the hands. But Dilts is quick to point out that simply squeezing or letting go of the controller will not give players control of the screen action.

The real trick, Dilts says, is to learn how the body actually responds and then use that information to play the games. "Your body doesn't work like a joystick," he says. "This device comes closer to how your hand-eye coordination truly works, because it's always adjusting like a muscle. What you have to do is associate the appropriate internal response to the command you want it to carry out."

In one Defender - type game in which a space ship has to avoid mountain peaks and oncoming enemy missiles, Dilts recommends visualizing the general area rather than a specific point for the ship's travel. Another tip he passes on is that players should not try too hard. "Sometimes, it's even difficult for me," says Dilts. "Usually that's

when I'm under pressure or in a demonstration. The more conscious you are of it, the harder it is to make the game do what you want it to."

An example of "trying too hard" was provided by one woman who tested the company's spaceship-in-a-forest game. The idea is to get the ship to travel over a clump of trees and land on the other corner of the screen in safety. Several times, just before the ship landed, it would shoot back to the top of the screen. "That's because she had an expectation of achievement," Dilts explains. "You can get excited to the point of switching reactions and miss the goal which was to have the spaceship land. Some people find that the machine does the opposite of what they think it will do"

"Basically," he adds, "you have to center yourself so you're not too relaxed and not too tensed."

The spaceship games are just two of several the company is developing specifically for the GSR controller. In one of the games, players must get a group of dots to form a straight vertical line over a block at the bottom of the screen. Usually, tensing causes the dots to move to the left and relaxing sends them to the right but it is easy to overcompensate. Besides challenging a person to get the dots in exactly the correct area, the game also allows competition against a time clock to see how fast the task can be completed. Another game with horizontal oval dots can be used as a sort of biofeedback mechanism. The object is to get the line into the center of the screen and produce a stable musical tone instead of an erratic one.

Dilts says all his company's games will be available for the Apple, Commodore 64, VIC-20, Atari VCS, 400 and Atari 800, but the GRS device can be used on any computer that has a game paddle. In addition to the GSR controller, which was developed by high tech consultant Trone Miller, the company is producing software based on concepts of Neuro-Linguistic Programming. Dilts, who has authored several books on the subject, including the *Roots of Neuro-Linguistic Programming,* became interested in the field while a student at the University of California in Santa Cruz. That was about eight years ago when he studied linguistics with John Grinder. Grinder, Dilts and David Gaster then went on to form Behavioral Engineering in 1981, in order to produce software using the Neuro-Linguistic Programming (NLP) approach.

Basically, NLP is a process for discovering how an individual uses the brain and applying appropriate strategies for problem solving. In studying therapists such as Virginia Satir and Fritz Perls, Grinder and John Bandler discovered that people recall experiences. They perform specific body motions, often moving the eye in a consistent pattern. In practical applications research, Dilts and others at Behavioral Engineering found that students who are good spellers almost always move their eyes up and to the left, because they are visualizing the letters of the word and the way it looks. The company incorporated that information into one of its educational programs, "Spelling Strategy," which has effectively taught even learning disabled students to spell.

"If a person is not a good speller, it's not that they're dumb or can't learn," says Bill Hanley, director of marketing. "It's just that they're using the wrong strategy for what they're trying to do. We've found that almost all good spellers visualize the words, so our programs are designed to increase a person's natural abilities, and enhance their internal abilities for visualization.

Beyond programs for spelling, typing and math, Dilts is working on more sophisticated applications of NLP theory. "Today, the games we're talking about are using the conscious to control the unconscious through the GCR device," he says. "But we can do it the other way around too."

Already in the works is a "mind control" game where the computer attempts to guess what a person is thinking. In this one, the player uses the GSR and responds to commands such as "Think of a pleasant experience," and then, "think of an unpleasant experience." The computer then asks the player to choose one of those experiences and think about it while the machine tries to match the player's thoughts. It does this by creating a digital graph during each part of the process and then matching responses as closely as possible. Dilts says some bugs still have to be worked out of the program. For instance, when a person thinks about something for a second time, they often change their reactions slightly. He foresees a day when this type of program could be used as a type of "mechanical therapists" in which a person could use their positive responses in negative situations.

Besides this scenario, Dilts envisions using the machine as an overall health monitor, complete with printouts which would be taken to a doctor's office. Also, the physically disabled could use the games and software. In fact, already, children with cerebral palsy have successfully played with the GSR controller.

"We're really talking about using the microcomputer to learn about a person," Dilts says. "It's not just biofeedback, it is biofeedback with some artificial intelligence thrown in. We're not just getting responses but intelligent responses that a person can use.

"For example, in the dots game, the computer can look at your reading and recommend that you amplify some responses and lower others," Dilts says. "It would be constantly updating you."

In the more immediate future, Dilts is developing games which he calls "more than imitation joystick games." The "Mental Olympics" for instance, will allow a player to control more than just the direction of the objects on the screen. "You will also be able to control the speed and behavior of the character," Dilts says. "For instance, in the running game, I control the speed of the runner because the more relaxed I am, the slower he runs. These kinds of games will be more open-ended than typical joystick games."

The running game, in particular, also incorporates aspects of biofeedback in that, if a player goes full out in the beginning, the body will naturally compensate and slow down, so the video character slows also. "You also have to pace yourself in the long-distance run, unlike in the sprint and that's interesting because that's just how it is in real running."

Fundamentally, Dilts sees his company's games as a way to entertain people while also pursuing other research. "The games are fitting in as a way to refine what we want to do on a more serious level," he says. "I think video games are like movies or rock and roll and they will eventually shape the culture."

"Personally," he adds, "I want to produce something that will leave people better off after they're played it." ▲

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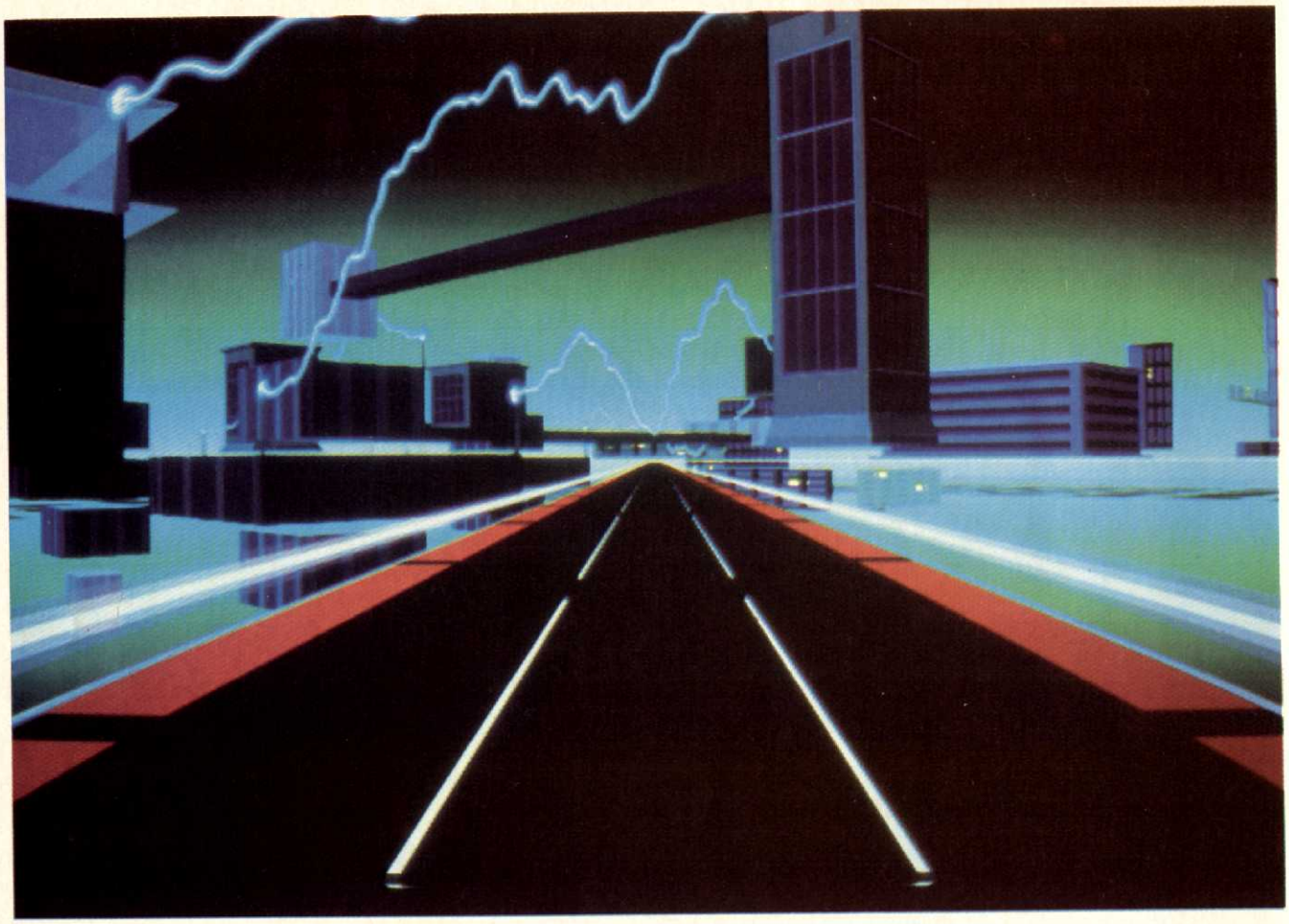


GOING FULL CYCLE

Williams' Laserdisc Star Rider Gets On Track

By Jim Gorzelany

Corporate headquarters, Williams Electronics, Chicago; manufacturer of coin-operated amusements. Immediately upon signing my name to a visitor's pass, I am whisked down a long white corridor and led into a darkened, windowless office. The door is hurridly closed behind me. My escort, a company marketing analyst, begins to grope around in the darkness behind a large, mysterious-looking object that takes up one corner of the room. From where I stand, it looks something like an upright video game cabinet that has been bisected by a runaway motorcycle.

I'm at this coin-op manufacturer to preview what is purported to be a revolutionary new first-person laserdisc game called Star Rider and, frankly, I'm beginning to wonder what the fuss is all about. However, these moments of doubt prove to be fleeting as my escort finds the appropriate switch at the back of the cabinet. The shadowy room is filled with the sound and color of this new machine, and I immediately realize that I'm about to be taken for one heck of a ride.

Star Rider is Williams Electronics' first laserdisc machine. It is without a doubt the company's most impressive creation since it debuted its inaugural

video effort, Defender, back in 1981. Defender broke new ground in the industry by introducing players to multiple controls, horizontal scrolling, and high-resolution computer graphics, among other features. Star Rider, likewise, breaks new ground by premiering another Williams exclusive: The Discan System of hardware scrolling. The result is that a player can actually change his/her first-person game perspective by interacting with the machine's disc-based computer animation.

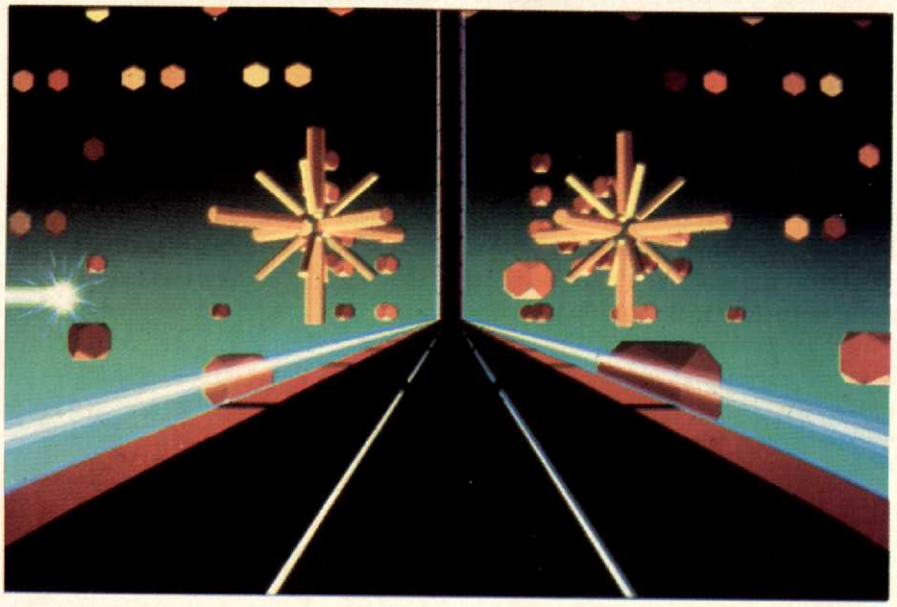
Simply put, Star Rider is a first-person driving game unlike any ever created. You pilot a jet-powered motorcycle on a race to the stars and beyond. The game has been designed with a painstaking eye for detail in order to be able to effectively simulate a "real" motorcyle race through seven fantasy worlds. Each world contains its own variety of sharp, twisting roads, and eerie floating landscapes. To play the game, you mount a full-scale console representation of the rear ⅔ of an actual motorcyle (molded from high-impact plastic). Your cycle is, as in real life, neatly controlled by a fully-steerable set of handlebars, complete with right-hand twist throttle, and left-hand brake and turbo buttons.

However, what makes Star Rider such a realistic experience is the on-screen view of the futuristic roadways that stretch out before you. Represented by some of the most impressive computer animation around (rivaling even the best scenes from the movie *Tron*), the other-worldly backgrounds are presented in full three-dimensional perspective. The twists, turns, and occasional hazards of each roadway, as well as the strange shapes that make up the landscapes for each of the seven planets, all move towards you in exact relation to their distance and size. The animated backgrounds feature the kind of high-resolution futuristic detail that can only be obtained through use of sophisticated computer-generated images. It sounds trite, but these graphics really have to be seen to be fully appreciated.

However, all this aside, the icing on the cake for Star Rider is in what the Williams' engineers have done with this spectacular laserdisc animation. Through the use of the Discan System, the machine will change the perspective of the roadway during the course of the game in perfect response to your steering and speed commands. When you steer to the left, the scene before you changes perspective to the left side of the road, and vice-versa. (For an explanation of how the Discan system works, see the accompanying feature). The effect is truly amazing.

Another feature unique to Star Rider is the use of a small rear-view screen located at the bottom center of the game's display monitor. This screen mirrors in precise 3-D detail whatever is represented in the fore-view immediately after you pass it by. The effect is precisely that of an auto's rear-view mirror. More than just a nice cosmetic touch, the rear-view screen is an integral part of the game, as it warns you of opposing cyclists approaching from the rear. This is a welcome feature that, in my opinion, should have been included in driving games of this type long ago.

Apart from the dazzling computer imagery, Star Rider is also a challenging game. Simply stated you are pitted against four other cyclists, with each having a different *personality,* in a race to reach the "Cosmodrome" at the end of each race track. These raceways, called "Cosmotracks," are each lined with force field beams that keep you on the road.



While you cannot run off the track, you will crash if you hug the rail for too long a period of time. Basically, if you finish first in a given race, you are whisked to the next raceway/Planet. Coming in second results in your getting to the next planet only after you deposit more money for extended play. If you place third or fourth, you're given the opportunity to replay the level. Finish fifth and the game is over.

Your cycle will crash into space debris if you either run into another cyclist or crack up along the sidewall/force beams. While you won't, technically, lose a life for crashing your vehicle, chances are it will give your opponents an opportunity to pass you by. You'll then have to play catch-up to avoid losing the race. Scoring is based upon your overall speed, how well you negotiate the turns, your final standing, and so on.

The game begins in "Cubitania," a cubist painter's surrealistic dream world. A small flying referee, the "Robofficial," calls the start, and you're immediately thrust into an environment that is made up entirely of colorful cube-shaped forms of varying sizes. This first course is relatively easy to negotiate, and features only moderately-hazardous twists and turns. Once you've gotten any "sightseeing" out of your system (you'll eventually have to keep your eyes more on the road than on the landscape in order to succeed). You should have little trouble finishing in first place here.

The second world in the game's progression is "Hexagonia," a planet made up of floating hexagonal (six-sided) shapes. The roads in Hexagonia are a bit more difficult to negotiate than they are in Cubitania. They also feature occasional hazards such as large hexagons placed in the road at unexpected locations. Hexagonia features some nice visual images, such as an occasional comet that streaks by, or a stretch of

road that suddenly pitches upward at a 90-degree angle.

From there, it's on to "Crystallia," a cool, crystalline world featuring an increasing number of turns placed at ever-sharpenings angles. As before, the Crystallia roadway system is littered with hazards including huge crystal shapes placed precariously in your path.

Next you race through the magnificent "Milky Way," where you'll zoom past an assortment of stars, asteroids, pulsars, suns, comets, and other gigantic formations, each animated in rich detail. The fifth Star Rider planet, "Titania" is made up almost entirely of eerie formations that resemble the legendary Titan heads of Easter Island (in fact, you enter the planet through the mouth of largest of these heads). Titania's essentially-dreary appearance is occasionally spruced-up by the appearance of colorful outer-space rainbows and electrostatic fields. The planet is made more deadly by the presence of the Titan heads, which often overhang onto the road to block a portion of your path.

The sixth level, "Stalactia," is a cave-like planet filled with floating stalagmites and stalactites, as well as a treacherous assortment of hairpin turns. Here, exploding stars and protruding stalagmites appear as obstacles in this beautiful, yet dangerous world.

The final Star Rider planet, "Metropolia," is also the game's most beautiful piece of work. As you race through this futuristic urban environment, huge buildings will float alongside, above, and below the road. You'll see elevators move from floor to floor as they pass by. Power generating stations will emit huge charges of electricity into the atmosphere. There's even remnants of past architecture (a gothic-column courthouse, for example) to be seen which occasionally whiz by along the way. If you happen to get through Metropolia, you'll zoom back to the Milky Way, and repeat the final four raceways ad infinitum (your opponents, however, will become more aggressive, thus increasing the game's difficulty).

Your four cyclist opponents are represented onscreen by computer-generated images that blend in nicely with the animated backgrounds. You'll see them sneak up behind you in your rear-view screen, and then watch them cruise off into the distance as they pass by. As mentioned earlier, each is programmed with his own distinct personality (or personality disorders, as the case may be).

"Thunderbolt" is the fastest and most aggressive of your adversaries. He also tends to fight dirty and will run you into a hazard or other rider if it suits his purpose. "Sidewinder" is the sneakiest of your opponents. He will frequently play cat-and-mouse with you, by alternately passing and then letting you pass by. "Red Hawk" is out for blood and is the most difficult of your four antagonists to pass. Your final opponent, "Gold Jet," is the "rookie of the year" in the Star Rider circuit. As such, he is not as experienced as the other riders, but makes up for it in terms of sheer desire. He simply doesn't like to lose.

Just about every detail of Star Rider is impressive, from the machine's sophisticated disc interface system to its three-channel sound system and basic cabinet design. All combined, the game really does give you the feel of driving in a high-speed motorcycle race (albeit one that is set in a succession of outer-space fantasy environments). I actually found myself ducking out of the way whenever I'd spin out of a turn and ram headlong into a well-placed obstacle. Enough cannot be said about the quality of the animated backgrounds and the manner in which the Williams engineers digitally manipulate them to simulate a true 3-D first person perspective.

Praise likewise goes to Williams for deciding to set Star Rider in a computer-animation fantasy world, rather than a real-life environment. This not only heightens the appeal of the game from a conceptual standpoint, but allows the manufacturer to create an almost seamless match of computer-generated graphics with the laserdisc animated backgrounds (a feature sorely missed in games such as Astron Belt and M.A.C.H. 3). Furthermore, use of fantasy settings allowed Williams to neatly suspend certain realities successfully for the sake of the game. For example, in a *real world* driving laser game such as Laser Grand Prix, it would be illogical for a racetrack to be equipped with force beams that hold your vehicle on the road. However, since Star Rider takes place in a totally fictional setting, such beams can be installed to further the playability of the game. The effect is that they don't appear out of place in a world where fantasy is reality.

Time, of course, will prove whether or not Star Rider has "legs," and will stand up to many repeated plays. I believe it will. Although Star Rider is rather single-minded in its basic game-playing premise, as a package it's certainly the most thoroughly enjoyable laserdisc game created to date. It is a game that exists, not so much to be played, but to be experienced.

A DISCAN DISCUSSION

By Jim Gorzelany

Laserdisc-based video games became the darlings of the coin-op industry in 1983 with the release of Starcom/Cinematronics' innovative Dragon's Lair last summer. The game's basic interactive capabilities were combined with Don Bluth's stunning animation to produce a machine that both piqued the interest of the media and gave the coin-op business a much-needed shot in the coin slot. Players, otherwise disinterested with last year's crop of space, maze, and climbing games, began returning to the arcades in healthy numbers to see the new technology in action.

As expected, other coin-op companies quickly followed suit and rushed to flood the arcades with their own laserdisc creations. These subsequent games tended to either follow the "decision-making episodes" format of Dragon's Lair (Cliff Hanger, Goal-to-Go, and NFL Football), or merely used laserdisc footage as backgrounds for what were essentially run-of-the-arcade combat and driving games (Astron Belt, Bega's Battle, M.A.C.H. 3, and Laser Grand Prix).

Until now, that is. Enter Williams with its first laserdisc release, Star Rider, a late, yet significant entry in what is increasingly becoming a high-tech, big risk

coin-op marketplace.

Star Rider is a futuristic, first-person driving game in which the player/driver races his or her jet-powered motorcycle through seven different planets. Each planet, represented by state-of-the-art, disc-based computer animation, features its own complement of twisting roads and bizarre landscapes. Due largely to the in-house breakthrough in computer-controlled, laser-disc technology, dubbed the Discan System, Star Rider gives players the sensation of participating in a high-speed fantasy race to the stars and beyond.

Along with many other coin-op manufacturers, Williams began looking into laserdisc video games in the fall of 1982, when Sega premiered a prototype of Astron Belt at the AMOA trade show in Chicago. However, according to Ron Crouse, Director of Marketing and a Williams vice-president, the company initially backed away from producing a laserdisc game because of the technical limitations of the early systems. "We were not happy with what the discs could do then," Crouse maintains, "there were a few early prototypes, but they were being produced with mostly poor results." What was missing? Interaction. "We wanted to do a genuinely interactive game, but the capabilities at the time were limiting," says Crouse, "so we decided to wait it out. We needed to be able change the player's perspective while he or she plays the game."

In February, 1983, Williams' engineers addressed the perspective problem by creating the Discan System of hardware-scrolling imagery. With disc systems also having been improved by then in terms of quality and reliability, Williams began in earnest the 10-month development process that produced its first laserdisc machine.

At about the same time, according to Crouse, the company was working on an idea for a first-person motorcycle racing game. "We had wanted to do a first-person driving game for some time," he says, "at the time, Williams had never developed a driving game in-house. When the laser technology began to happen, we felt that it was natural to combine the two concepts."

With the exception of the game's disc-based computer animation, Star Rider was created totally in-house by Williams—something that is often a rarity in these days of licensed games and sub-contracted development. According to Williams' marketing analyst Joe Kaminkow, the firm pulled together to work on the game in a true "team" effort. "Nearly the entire company including engineers, programmers, artists, and so forth, worked on Star Rider at one point or another. Many of them seven days a week," he says, "I think their dedication and effort shows in the final product."

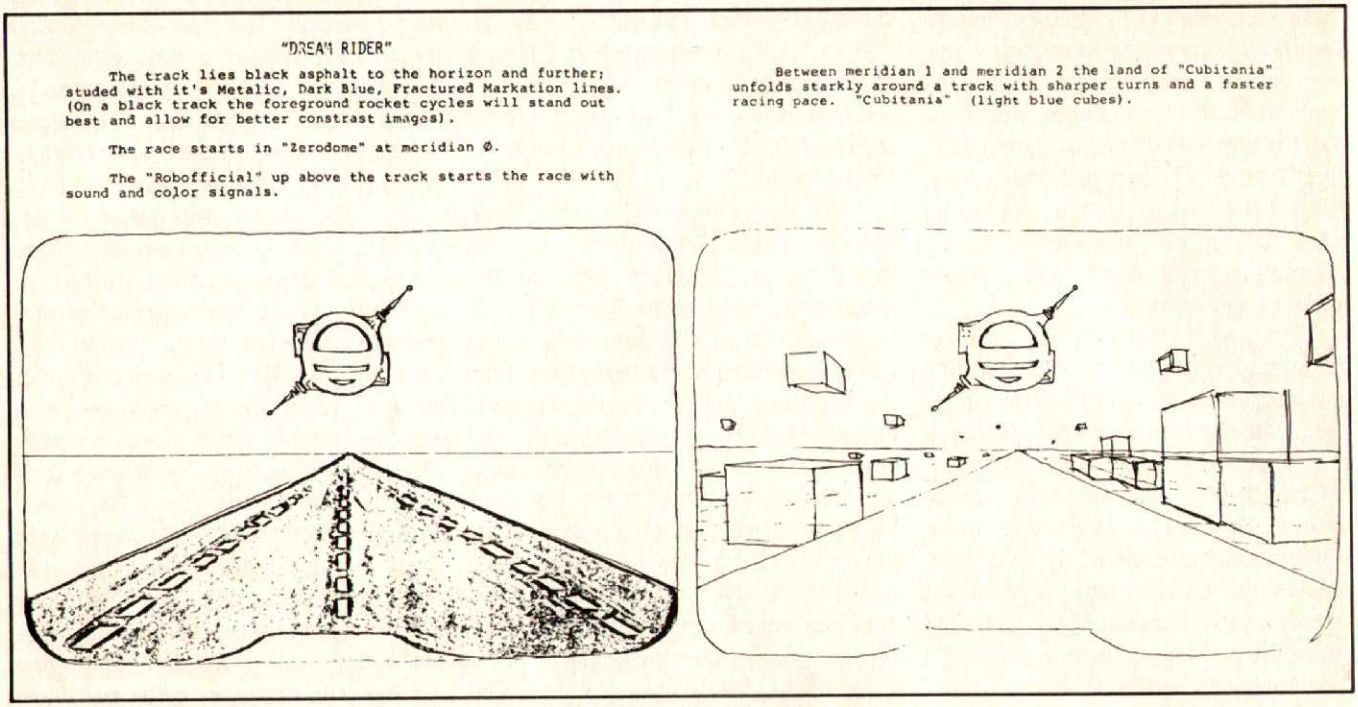
At the heart of Star Rider is the Discan System, a 6809E microprocesor that serves as an interface between the machine's specially-modified Pioneer laserdisc player and the rest of the game's computer operating system. Like the rest of the package, this interface was designed totally in-house by Williams' engineers (patents, as they say, have been applied for). It is this system that gives the game its realistic feel by providing the player with the ability to change his or her perspective of the disc-based animated roads in relation to any variation in speed or steering angle.

Basically, here's how it works. The computer animation that makes up Cubitania and the other six Star Rider worlds is originally generated in what is best described as a "compressed" format. If you were to view the game's background disc on a standard laserdisc player, it would look something like a wide-screen movie that had been optically squeezed onto a TV screen. Everything on the screen would look about twice as tall and skinny as it would normally. Essentially, what the discan system does is expand the picture back to its "actual" width (about twice the width of the game's monitor), and scrolls the on-screen perspective to the left or right, based on the position of the handlebars. The speed at which the background moves, of course, is based upon the player's touch on the throttle, turbo, and brake controls. The computer performs these adjustments almost instantaneously on a line-by-line scanning basis. According to Crouse, each line of on-screen video resolution is scanned at a staggering 15,000 times per second.

The disc-based animation is assembled as one, continuous 20-minute video consisting of nine individual segments: the game's attract mode, seven individual planet/racetracks, and the transition that takes a player from planet to planet. Both the bottom-screen rear-view display and the main fore-view screens are taken from the same frame of information on the disc. To give a realistic effect, the rear-view segment of the screen is in reverse synchronization with the main viewing area. The player sees an object coming toward him or her in the main screen and watches it going off into the distance in the rear-view screen. As with all laserdiscs, the digital video and audio information stored on its computer coded on a frame-by-frame basis for precise, instant location during the course of the game. For example, as a player finishes the Cubitania raceway in first place (thus entitling him or her to proceed to the next world), the computer immediately advances to the transition segment of the disk, plays it, and then speedily goes on to the Hexagonia segment of the video and plays it.

The laserdisc footage was *shot* at Computer Creations in South Bend, a production house noted for its work in

Star Rider's cabinet has also been designed to add to the "reality" of the game . . . the cabinet, molded from high-impace plastic, features a full-scale, sit-on motorcycle that protrudes out from the front of the cabinet.



creating special effects for a variety of television commercials and programs. Nevertheless, the actual concepts, layouts, designs, and initial artwork for each of the fantasy worlds were developed by Williams' staff of artists and designers. "We drew up maps of each of the courses showing what kinds of things would happen where, such as turns, obstacles, comets, special sound effects, the directions of the building elevators in Metropolia, and so forth," Crouse explained, "along with storyboards that would show what we wanted the player's perspective to look like throughout each race track."

Williams worked with Computer Creations for a total of five months. Although the production house worked exclusively from Williams' original designs, according to Crouse the final product ended up being more a joint creation than had originally been anticipated. "In the early stages of development, work was done strictly to our specifications," Crouse said, "however, after we had worked together for some time and got a better idea of what each other was doing, Computer Creations was given a wider latitude of input in the game's animation."

Supporting Star Rider's impressive visual display is an equally-sophisticated three-channel sound system that gives the player an aural, as well as visual, spacial perspective of the action. Two speakers are mounted to the left and right, just above the game's video monitor. A third speaker is mounted in the "motorcycle" portion of the cabinet, right under the seat. The special sound effects recorded on the laserdisc including the 'whoosh" of a comet streaking above the road, for instance, are presented in two-channel only (front speakers). However, all other audio effects, generated by the machine itself, are relayed in full three-channel ambiance. Thus, a player will hear the sounds of an opponent's cycle fade into the seat-mounted speaker as he or she is approached from behind. As the other cyclist passes, you'll hear the sound zoom from the rear to either of the two front speakers (depending upon which side of the road the opponent uses for passing). Further, according to Crouse, the rear speaker is used to heighten the illusion by generating the sounds of the player's engines, based on speed. "It provides an added sensation," he ex-

plains, "and gives you the feeling of having an engine mounted right under you."

Technology alone, however, doesn't always ensure a successful video game. "I feel that you have three priorities in designing a game of this type," Crouse explains. "First is sight. It has to be visually exciting. Next is sound. The game's audio effects have to sound realistic. Finally is the game play itself. It has to really grab you the first time you stick a quarter into it."

With the visual and audio aspects of Star Rider given up largely to advancements in technology, the potential weak link in the game design chain is frequently the third of these considerations: game play. According to Crouse, in order to make the game enjoyable and allow it to feed off of the players' imaginations, Williams chose to get Star Rider on a race track leading through a succession of strange fantasy worlds, rather than adhere to the Earthbound rules of the road.

What's more, Crouse adds, the use of computer-animated, disc-based, otherworldly backgrounds (as opposed to the real-life filmed backgrounds used in games such as Laser Grand Prix and M.A.C.H. 3) actually makes the game more realistic to the player. "We didn't want the game to look like a bunch of computer images that were projected over a filmed background," Crouse says. "We wanted the two sets of visuals to blend together. By using computer animation instead of film, we were able to nicely achieve this matching effect. The other motorcycles in the race look like they belong there. They don't clash with the background."

Further, the individual behaviors of these computer-generated cyclists have been carefully programmed in order to provide a progressively-difficult challenge to the player. "The four opponents who race against you each have their own distinct personalities, but they're not there specifically to attack you. Neither are they there to act as obstacles, as in other driving games," Crouse explains. "They're competitors and, like you, they're out to win the race. Some, more than others, are willing to do whatever it takes to win, and if that involves running you into another cycle, so be it." In addition, Crouse adds, the opposing racers do not follow a uniform pattern of behavior for each race. "We wanted to build as much randomness into the game as possible," he says. "We didn't want a game that a player could memorize and know what would happen next. We wanted a game that would be different for the player each time."

Star Rider's cabinet has also been designed to add to the "reality" of the game, Crouse says. The cabinet, molded from high-impact plastic, features a full-scale, sit-on motorcycle that protrudes out from the front of the cabinet. A detachable front wheel and cowling, mounted at the rear of the machine completes the package. (The game is also available to operators who are cramped for space in dressed-down upright models.) "Again, we wanted the game to be as realistic as possible," Crouse points out. "We wanted the player to feel like he or she was riding a real motorcycle. One of our employees even had his motorcycle up here for a few days so we could study its design."

Crouse estimates that the company has spent between $3½ and $4 million to create Star Rider. "We've invested roughly four times the normal development cost on Star Rider," he says. "It is certainly our most ambitious project to date. We've created our own technology in this industry and have produced a product that is both unique and innovative." Crouse figures to sell roughly 10,000 Star Rider machines to operators this year. For as innovative a machine as Star Rider is, 10,000 units hardly seems significant when compared with the phenomenal six-figure sales of Pac-Man and Ms. Pac-Man a couple of years ago. However, Crouse readily admits that Pac-Man is Pac-Man, and times have certainly changed for the industry in the past two years. "In today's market, 10,000 is good," he explains. "Operators aren't buying many new games these days."

Whether or not Star Rider is a runaway success will, of course, be determined by the marketplace. Like many companies in both the home and coin-op ends of the video-game business, Williams is a company in search of a hit (it's last "big" game was Joust). With an estimated pre-tax loss of $5 to $6 million in the fourth quarter of 1983, Williams can ill afford to take a $4 million bath on Star Rider.

However, success or failure not withstanding, what will the future hold for this still new, yet increasingly-sophisticated laserdisc video-game technology? For the short term, Crouse feels that both combat and driving-type contests will continue to be the dominant disc games and will become increasingly interactive. However, he doesn't feel that the laserdisc machines will nudge standard video, and even pinball games completely out of arcades and street locations. "Laser games will continue to be a part of, not a replacement for, a company's product line," Crouse explains. "There will always be a demand for other types of machines." For the distant future, Crouse forsees the development of a totally sensory-oriented machine.

"I'd really like to create a fantasy game that achieves total realism—touch, smell, and taste, as well as sight and sound," he says. "That would be the ultimate game." ▲

CONVENTIONAL WISDOM Spotlighting Developments At The Winter CES

By Roger C. Sharpe

The spectacle grows in stature and magnitude each time it is staged. As a showcase for the latest technological innovations and advances, it has become something of a happening. I know. Since 1975, twice a year, I have attended the Consumer Electronics Show and witnessed, first hand, the incredible developments.

For me the beginning meant a look at a new invention called videocassette recorders, which were heralded as creations destined to change the entertainment habits of people everywhere. In less than a decade, VCR's have done this and much more in opening our eyes to the many options available to us when we stop to consider what we want to do with our leisure time hours. Another format, videodisc players, which were announced at approximately the same time, haven't as yet enjoyed the impact many expected, although this could well change within the next year and a half.

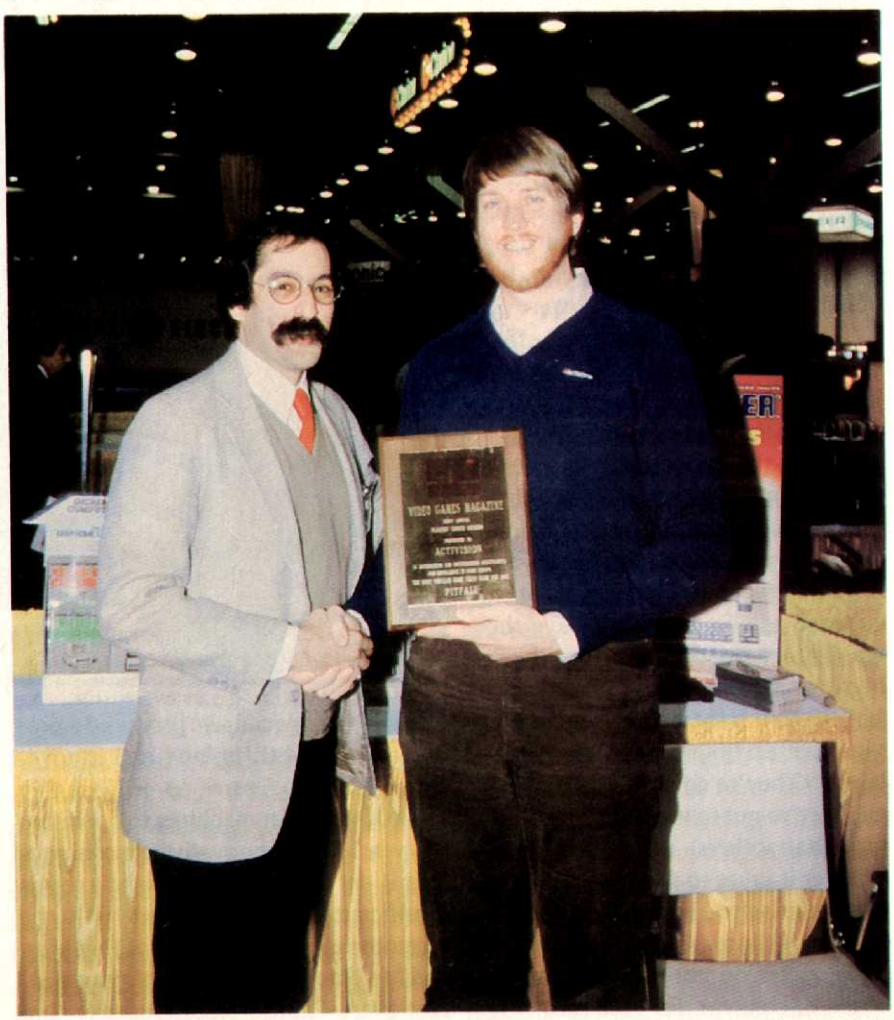
Admittedly, back in the mid- to late-Seventies, the CES was an opportunity for audio manufacturers to display their wares almost to the exclusion and neglect of other product categories. But it didn't take much insight, even for a new observer like myself, to realize that the pendulum was beginning to swing in a different direction.

Eventually, the extravaganzas held every summer in Chicago and every winter in Las Vegas, were noted for singular achievements which always seemed to transcend everything else. Not the least of these breakthroughs and trend setters was the establishment of a home video game industry. Reigning supreme for over two years, it is amazing to remember that all of the excitement started with an avalanche of hand-held toys and a few very basic game *systems*.

No one ever expected, or was prepared, for the phenomenon which followed. There was no reason to anticipate the enormous popularity of this new class of electronic fun. However, what the industry soon learned was the public and, especially, the media were more than ready to embrace video games in almost any size or shape.

A side effect of all the hype and attention was that the CES, a trade-only gathering, became more of an event for the masses. Everyone wanted to experience, or at least get a glimpse of, the cutting edge of new technologies and what they might bring in the future.

The result was that the recently held Winter Consumer Electronics Show in early January broke all previous records. More than 91,000 people ventured to Las Vegas for four days to see the products displayed by over 1,300 exhibitors. The convention has grown so big that, if anyone were to want to cover it all, they



V G editor, Roger Sharpe presenting Award to David Crane of Activision for "Pitfall".

would have to walk through about 750,000 square feet of exhibit space spread out in five different locations. In addition, as always, there were an impressive selection of daily workshops and conferences focused on the issues and business practices of this massive industry.

Interestingly, despite all the doom and gloom associated with the survival of video games, the immediate prognosis isn't that life-threatening. Although the number of active participants in either the manufacture of hardware systems or game cartridges has noticeably diminished from what it once was, their presence could still be felt.

This time around the target is the ever expanding marketplace of personal computers. Though the amount of new systems or models introduced were rather limited, the proliferation of available software for most major units seemed to be on the rise. And, leading the way, were game titles and themes which owed much of their existence to what is happening in the arcades and game rooms around the country. Whether a direct licensing effort, or an adaptation of something familiar from the coin-op world, the latest releases share a common bond that can't be ignored, let alone, minimized.

Whatever anyone wants to believe, video is far from dead, although now it is beginning to straddle a far greater area of influence. In fact, if the lower end of the personal computer market is to ultimately be seen as next-generation game machines, home video, as an entity, should have a few more last hurrahs before it is replaced by the next evolutionary advance.

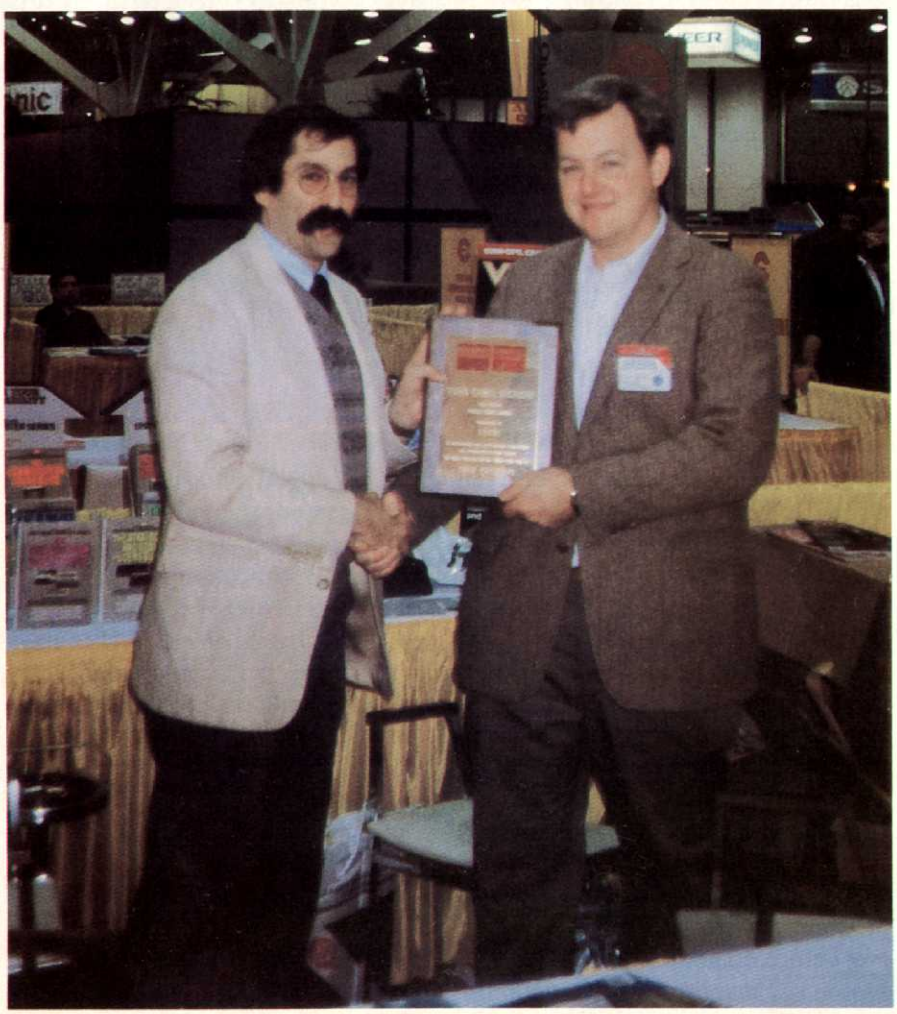
THE NAME OF THE GAME

To put the overall proceedings in the proper perspective, the transitional phase taking place in the arcade game world is also being mirrored in terms of home video as we know it and even personal computers. The healthiest sign of this appraisal seemed to be the general mood of CES with both video games and computers having been moved out of the limelight. This should provide some much needed breathing space for the next few months, so that various manufacturers can carry on without the burden or fear that every step they take is being looked at through the microscope.

Elsewhere, the appearance of Kodak caused considerable interest since this legendary name in still and movie photography was unveiling a new videotape format. The company's new KodaVision system, which was jointly developed with Matsushita of Japan, features a revolutionary 8mm video camera and playback deck. Although a development of this type had been expected for some time, what might have been more surprising was the announcement and display of similar systems from General Electric and the Fisher Corporation.

Given the general acceptance and popularity of VHS and Beta machines in the world of home video, whether another separate, and so far incompatible, format can gain any widespread support, should ensure extensive coverage for this area of video entertainment. In a related development, Konica made its presence felt with an incredible, lightweight (only 1.6 pounds) VHS-compatible video camera.

Otherwise, Winter '84 CES was noteworthy for new, and more fully-featured Digital Audio Disc systems, portable radios, cassette players and televisions, electronic keyboards, and a distinct lack of any real excitement regarding that sleeping giant—videodisc players. It could well be speculated that the overwhelming demand for laserdisc players, by the coin-op industry, has had an affect of altering the view of what the potential primary audience is at this stage of development.



Steve Calfee, vice president game design, receiving Atari's award for "Pole Position."

PLAYING THE FIELD

As stated earlier, although home video games and personal computers appeared to have lost some of their luster, the products that were displayed weren't

ignored. In fact, if anything, the remaining manufacturers in the field seemed to have gotten their collective acts together. The result was better quality hardware and support systems, as well as some exceptional software.

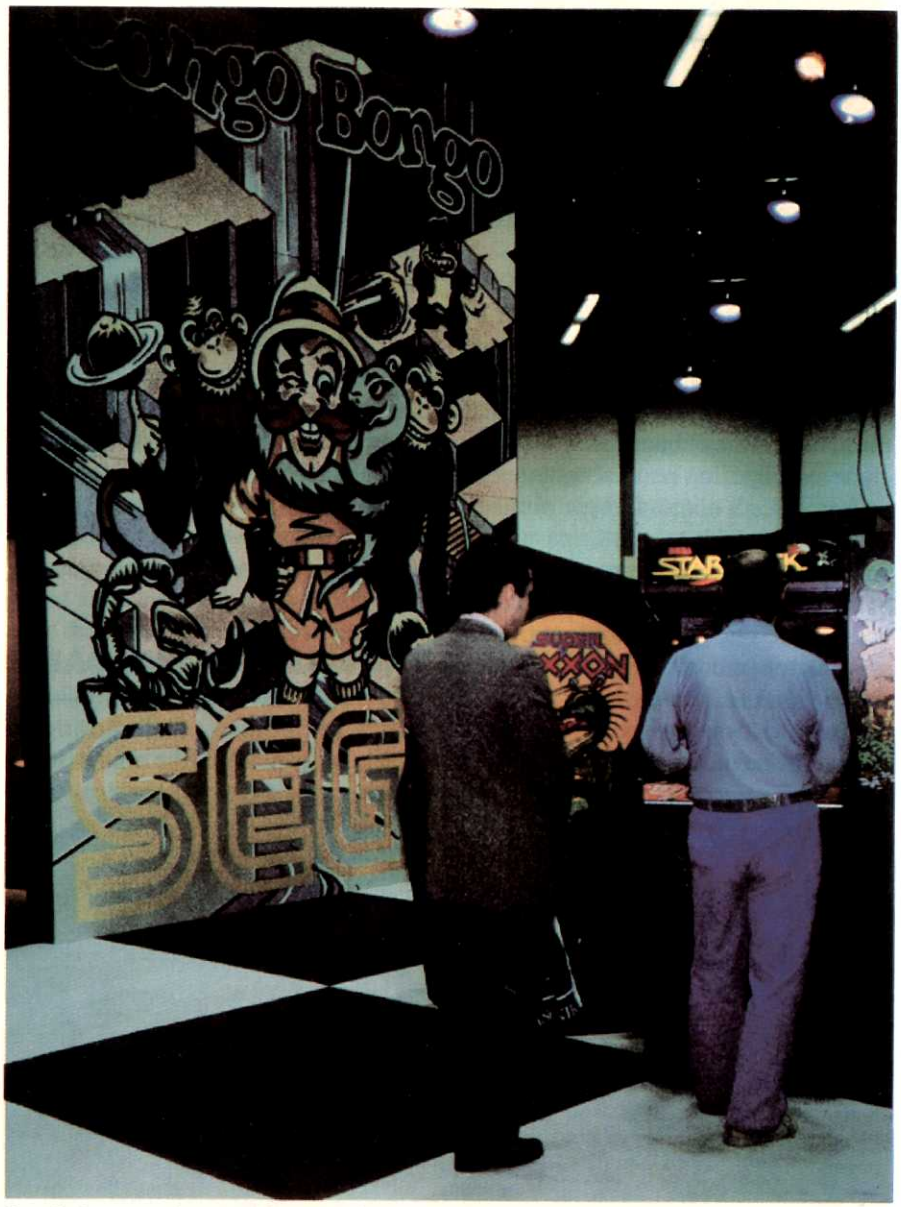
This was especially true in the area of personal computers where light pens and touch tablets led a parade of more sophisticated peripherals designed to expand the capabilities of the most popular systems. Thankfully, the era of a new computer model introduction almost every week has given way to a change in emphasis. Instead, the feeling is one of an industry becoming more stabilized.

One could sense this shift at the Atari booth where the 600XL and 800XL were displayed with a variety of peripherals, including a touch tablet and light pen as well as a strong assortment of educational and business software along with the latest game titles, most of which we know from the arcades.

Over at Coleco the problems of last year, due to the expectations and realities of introducing a new computer system, seemed to be a distant, if not forgotten, memory. ADAM was everywhere with some extra peripheral options, not the least of which was a disk drive. But the true measure of just how far the system has come could be seen in the array of software programs from both the company itself, as well as via the efforts of an all-star line-up of some of the industry's leading producers. In addition, Coleco showed off imaginative, new packaging design that is certain to be noticed when it begins hitting store shelves in the next few weeks.

Rather than resting on its laurels and past successes, Commodore made the only real major hardware news with the introduction of three personal computer models—the C264, CV364 and the SX64 portable. Seen as next generation machines, highlights included built-in software capabilities and options, as well as the use of voice synthesis.

Whether Commodore can enjoy the same popularity with these entries as it did with the VIC-20 and Commodore 64, remains to be seen given the upcoming availability of the IBM PCjr and Apple's new Macintosh. But the company was curiously alone with the announcement of additional models into an already crowded marketplace.



Sega brings arcade action home with Congo Bongo and other coin-op hits.

For the most part, CES provided an indication that the coming months will be remembered more for the gaining in prominence of peripherals as a growth area. In addition, software releases tended to confirm the belief that specific systems are becoming, more or less, standards that will attract the most attention. These included Commodore 64, IBM PC and PCjr, Apple, Atari and even Coleco's ADAM.

Although educational and business programs were in greater numbers than ever before, computer games still held a substantial margin in where the most creative efforts were going. Themes continued to show a marked preference for either direct adaptations of arcade titles, or at least some apparent influence from the trends of the coin-op world.

This isn't to suggest that we can't expect some original designs in the future for home use. In fact, there were some refreshing embellishments which attempted to further incorporate what's available when using the current technology. Interphase Technologies, for instance, a new company from Canada, was showing off two titles, Blockade Runner and Sewer Sam, which offer 3-D effects. Viking Raider from the same people brought into play the integration of synthesized voice.

Over at SubLogic Corporation the

LOOKS LIKE YOU'RE READY FOR PITFALL HARRY'S NEW ADVENTURE.

You're going to need a whole lot more than your toothbrush for this trip. You're headed deep beneath the jungles of Peru, deep into the Lost Caverns. Harry needs your help in finding his niece Rhonda and his sidekick Quickclaw. Not to mention a king's ransom in gold bars and the ever-popular Raj Diamond.

Pack your bag and gather your courage as you swim raging underground rivers full of electric eels. Dodge crash-diving condors. Avoid Amazon frogs, some very bitter bats and the dreaded cave rat ...eeeek!

Harry has to run, hop, swim, jump off ledges and even use rising balloons to master this new mission. He needs your help in Pitfall II: Lost Caverns,™ currently for the Atari® 2600.™ Explore David Crane's newest, from Activision!

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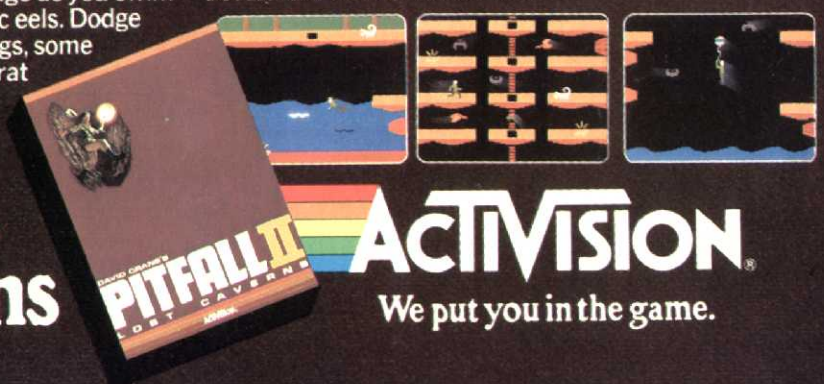


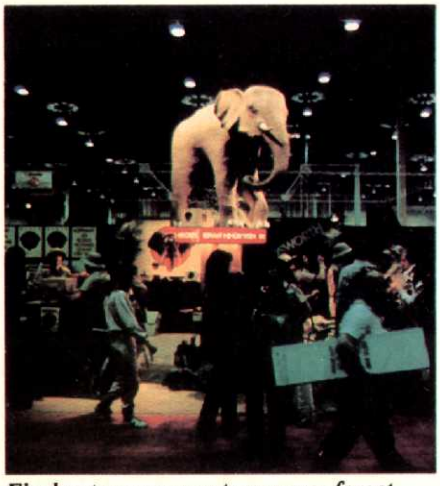
PITFALL II Lost Caverns

ACTIVISION®

We put you in the game.

Another robot wonder takes in the sights of CES.

It's the real thing with Scotch tapes.



Elephant memory systems never forget.

Spectravideo's personal computers on display.

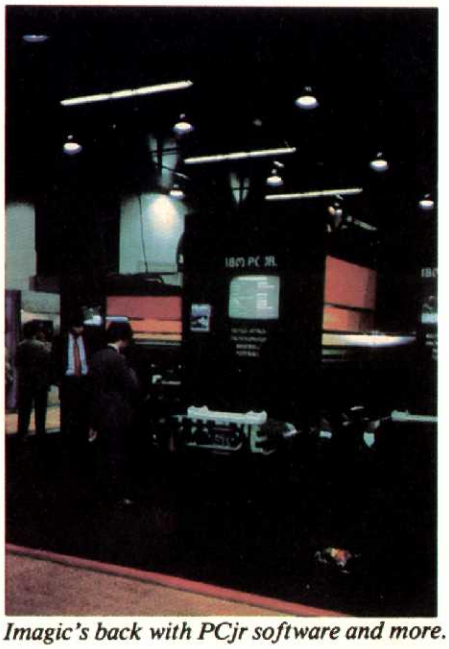
Tigervision's latest game titles feature non-stop action.

It's a light touch for computer artists.

Super hero software from Marvel and Adventure International.

Xonox's new computer and game software.

Cumma Technology's new Metawriter system.



Imagic's back with PCjr software and more.

It's an SRO crowd at Atari to sample their newest home cart titles.

Mattel Electronics showed off an array of equipment, games and software.

It was all fun and games at the Activision booth.

emphasis was on more realistic graphics and effects with the presentation of Flight Simulator II. This incredible game gives players the sensation of controlling a Piper 181 Cherokee Archer with full flight instrumentation that makes you want to fasten your seat belt before you take off. As for Night Mission Pinball, this old time arcade attraction never looked better on a video screen than it does here.

Micro Lab Computer Products has not ignored the success of Miner 2049er and has brought back lead character Bounty Bob in another adventure called Scraper Caper. Also on display under the company's MicroFun banner were The Heist and Dino Eggs as well as a selection of educational and business software. First Star Software meanwhile, undoubtedly recognizing the potential draw of a Bounty Bob or some other dominant game character, tried a similar scenario of giving dimensionality and personality to a lead figure. In Boulder Dash we find Rockford trying to make his way through 16 different caves and scrolling screens.

Other exhibits of interest to game players included Synapse where Dimension X, Slamball, Drelbs and Necromancer were just some of the imaginative efforts on display. Over at Epyx there was a mix between the old and new. The company's classic arcade series of former Bally hits, such as Seawolf and Gunfight, were nicely complemented by the appearance of a challenging Olympic multi-event contest as well as a very realistic baseball simulation.

Spinnaker continued to show its commitment to providing products for younger audiences with such entries as Bubble Burst and Alf in the Color Caves. However, the company hasn't forgotten other players as evidenced by the introduction of Trains, an animated economics simulation where the challenge is to manage your own railroad. In addition, there was a musical strategy game called Jukebox where the objective is to collect as many gold records as possible.

Some familiar names in the game business also had some surprises to of-

fer. For starters, Imagic is back and showed off titles for the PCjr, ColecoVision and ADAM, Atari and TI. There was a mixture of old and new with Demon Attack, Microsurgeon, Football and Baseball leading the way. Another recognizeable face in the crowd was Activision where Atari computers, the Commodore 64, ADAM and the 5200 were spotlighted for the introduction of Pitfall II: Lost Caverns, David Crane's follow-up to his Video Games Players' Choice Award winner, Zenji, a glowing maze and strategy game, H.E.R.O. and Private Eye.

Parker Brothers thrust of releasing games in multiple formats for the leading game and computer systems continued to rely on arcade licenses and other popular characters. The big news were renditions of Centuri/Konami's 1983 hit, Gyruss as well as a James Bond title and Star Wars, an adaptation which faithfully replicated the excitement of the Atari coin-op game. Interestingly, the last creation was the result of an agreement between Parker and Imagic, with the latter developing the product for home consumption.

Speaking of game directions and trends, Mattel obviously hasn't minimized the the impact of arcades with BurgerTime and Lock 'N Chase heading up a selection of game software for Apple and IBM owners. In addition, new and original titles such as Pirates of the Nile and Heavy Artillery, rounded off this company's offerings. Even Intellivision II was being hyped for its expansion capabilities via a number of add-ons, not the least of which is a system changer allowing the unit to play more than 375 video games. One game Mattel hopes players will be adding to their collections is a newcomer called Hover Force 3-D which will be packaged with the company's specially designed glasses.

Still the only true stand-alone video game system, GCE's Vectrex brought back its light pen and 3-D imager add-ons as well as such new cartridges as Video Games Players' Choice Award winner in the arcade category, Atari's Pole Position, along with an inventive and realistic baseball game called Batter Up. In addition, a video adaptation of Milton Bradley's electronic board game fantasy, Dark Tower, was on display.

Hover Force 3-D gave a new dimension to video action at Mattel.

Recognizeable titles and themes dominated the Parker Brothers exhibit.

Finally, in terms of video and computer game highlights at CES, Palmtex was back with a redesigned PVS (Portable Videogame System). This handheld creation, which we reported on a number of issues back, is now for real and features interchangeable cartridges, a full command control console and a screen size that's 2.2 inches big/small. An initial selection of three games, Aladdin's Adventure, React Attack and Outflank, were previewed with a scheduled price for the console with one game cart included announced at under $50, and individual carts planned to retail for about $15 each. ▲

Getting a Handle On Your Game With Controls At Your Feet

By Dan Persons

Now with the new game system field quickly being monopolized by the Atari 5200 and ColecoVision, and with the software market pretty much sewed up by such giants as Activision and Parker Brothers, a company just entering the field has no choice but to cast around for a new wrinkle that will attract the consumers attention. With precious few options available, a few manufactureres are attempting to redesign the standard joystick controller. Now Amiga, a company best known parhaps for its miniscule Power Stick replacement joystick, has introduced the Joyboard, a controller that's unique not for what it has, but what it *doesn't* have.

Looking like a cross between a high-tech doormat and Darth Vader's bathroom scale, the Joyboard is based on an exquisitely simple concept. The regular joystick is replaced by a flat disk positioned underneath the board. By standing on the ribbed platform, the player operates the Joyboard like a four-way teeter-totter, activating the standard eight compass points by leaning forward, backward, left and right.

With such a physical system, it wouldn't do to play just any old slide-and-shoot game. Wisely, Amiga has included in the Joybard package a game well suited to the controller's unique abilities: Mogul Maniac. This is a first person skiing game. With the tips of your skis visible at the lower edge of the screen, you must use the Joyboard to maneuver your way down a winding slalom course. Leaning forward and backward accelerates and decelerates your speed, while leaning to the left aims your skis to the right, and vice-versa (which, I assume, is the way real skis operate).

Each course requires you to master

two types of maneuvers. You must guide yourself through pairs of poles positioned side by side, and also zig-zag through the traditional slalom course of single poles. A complete game consists of two runs through the same course, with the accumulated time for both runs being displayed at the top of the screen.

There are nine different courses to choose from, which each course varying the maximum speed that you can attain, and the number and placement of the poles. This is a one-player game, but the best time for each course is always on display, so two or more people can compete against each other.

Although somewhat simple in design, the screen being dominated by a swatch of featureless white, Mogul Maniac does feature a good 3-D effect in the depiction of the posts approaching you, and some good sound effects in the simulation of the hushed swish of skis travelling over firmly packed snow. Played with a joystick, the game is perhaps a little too easy in its lower skill levels, but something of a challenge in the courses that permit you to travel at top speed.

With the Joyboard in place, the situation changes considerably. Once you have overcome the fear that the device is going to pitch you through the TV screen (which never happened to me during my testing of the device), you discover that control is not just a matter of shifting your weight at the right time. Lean too far in one direction and the control disk lifts

up off the floor, resulting in no response at all. Mastery of the Joyboard requires a more subtle manipulation of weight, something that takes a bit of time to learn.

Once you have gotten the hang of the board, playing Mogul Maniac becomes a uniquely physical experience. While it is not unusual to use a bit of body language when playing with a joystick, with the Joyboard it's mandatory. With the exertion necessary to operate the Joyboard, another level of reality is added to game play, especially with such sports-oriented games as Mogul Maniac. While you don't exactly feel the icy wind whistling past your face, the sheer physicality of the Joyboard reinforces the effect of the game's visuals, making Mogul Maniac a slightly close approximation of the actual experience of skiing.

A socket has been included in the Joyboard, so that a player can use the fire button of a standard joystick to play other games with the board. While it's a nice feature, the matter of control is imprecise enough that most conventional games would be unsatisfactory for use

with it. Strangely enough, the games that are best suited for the board seem to be those that incorporate the laws of momentum into the control of onscreen characters. Using the Joyboard, you actually feel as if you're throwing your weight into the maneuvering of the ships in Moonsweeper or Defender, since the ships coast for a bit before changing directions. As with Mogul Maniac, the effect of controlling the Joyboard reinforces the visuals on the screen, involving the player just a bit more in these games.

While the Joyboard could not be seriously considered as a replacement for conventional joysticks, when used in relation with the Mogul Maniac game cartridge and other games that attempt to simulate the physics of movement, the effect can be unique and enjoyable. Amiga intends to release at least one more cartridge, a surfing game called, naturally enough, Surf's Up!, for use with the Joyboard. If the idea of becoming more physically involved with games sounds appealing, and if you don't mind the extra exertion required or the sports-oriented nature of the games that work best with the system, then the Joyboard could become a welcome addition to your home game setup.

POWER ARCADE

Comes the great video game crash of 1983. It's no longer good enough to have games that are good enough. Manufacturers are discovering that their games must have something special, something that would make them stand out from the crowd. That's no great problem if you're Atari or Activision, with years of programming experience behind you. But if you're a manufacturer who is just entering the field, you might want to cast around for an idea, new or old, that will attract the attention and, with any luck, the hard-earned dollars, of game players everywhere.

Enter MB Electronics, the electronic game arm of the giant Milton Bradley Company. Having manufactured the first truly successful stand-alone game, Simon, and having been a pioneer in such areas as voice synthesis (Milton), along with home robotics (Big Trac), MB stayed curiously away from video games, even after their big competitor, Parker Brothers, announced a line of licensed, and highly profitable, cartridges for the Atari 2600. Now, two years after Parker's entry into the field, Milton Bradley has decided to release their own Power Arcade series of games for the 2600. Not taking any chances in the currently depressed video game market, the folks at MB have taken as a prime selling point an idea that takes us back to the days when a game's controls were more than just an anonymous joystick.

The basic concept is simple enough: Take a flat plastic base that has all the workings of a standard joystick. On top of that base, fit a handle that bears a close resemblance to either an old-fashioned machine gun, or a spaceship's high-tech control panel. Rig the handle with a flashing light and a whirring motor (Yes! The return of "Batteries Not Included") to provide visual and audible feedback every time the player presses the fire button. Then pack with each controller a suitably themed game and, *voila,* you have the Flight Commander and Cosmic Commander control systems, Milton Bradley's attempt to carry video game action off the screen and into your hands.

Out of the box, and decked out with their various decals and glow-through stickers, both Power Arcade controllers look intriguing. The Flight Commander's flat-black machine-gun is high-

lighted by World War I-style decals, a mammoth gunsight, and a small, simulated, radar and fuel gauge that flash when the fire button is pressed. The less ornate, rectangular Cosmic Commander features a control panel-type look, with a large plastic lens at the center that glows with a nicely rendered, four-color radar screen at the press of the fire button. Both feature a pair of handles that a player is supposed to grab onto with two hands, giving the satisfying feeling that one is holding something substantial. The short-throw fire button is placed on top of the left handle, within easy reach of a players thumb. Maneuvering is done by sliding the handles forward and back, in a manner similar to a standard joystick, or by twisting the handles clockwise or counterclockwise to trigger the handles to what would normally be the left-right directions on a joystick.

As befits the nature of the controllers, the one-player games provided are both first-person shoot-outs. Packed with the Flight Commander is a game called Spitfire Attack, an aerial dogfight combining both air and ground based targets. Accompanying the Cosmic Commander is Survival Run, a Flash Gordon/Spider City-style maze game with 3-D graphics.

Spitfire Attack is a straightforward, arcade-style war game. The view is from the cockpit of your airplane as enemy planes approach and attempt to shoot you down. Meanwhile, the ground rolls underneath your plane, bringing into firing range lone anti-aircraft guns and house-shaped ammunition dumps. Your job is simple: Maneuver your plane to bring the various targets into the diamond-shaped marker in the center of the screen, and then blast said targets to smithereens with your machine gun.

Complicating matters is the fact that, if you keep your plane in a dive for too long, which normally happens when you are trying to line up ground targets, your plane will eventually crash. A warning buzzer sounds several seconds before the event, giving you enough time to pull up and avoid a catastrophe. In addition, the screen occasionally fills with bursts of flak. If you don't dive and take out an anti-aircraft gun, your plane will be felled by one of the deadly explosions.

In comparison to Spitfire Attack, Survival Run presents a slightly more elaborate challenge. Here your goal is to make it from one end of a winding maze to the other, with your point-of-view being a first-person representation of the maze's narrow corridors. Along the way you encounter alien guard ships and pulsating force columns, all of which are bent on sapping you of precious energy. To eliminate these enemies, you need only position your on-screen cursor to intersect with the bad guy's paths as they travel down the corridor and press the fire button to launch a photon torpedo. Removing the force column is done by firing at a small, moving box positioned to one side of the column.

At the end of each corridor, you are presented with the choice of making either a left turn or a right turn by moving the cursor to one of the other side of a rapidly approaching divider. You make your decision using a radar map of the entire maze that is depicted at the top of the screen. The correct choice awards you energy and points, and brings you into the next corridor. The wrong choice instantly crashes your ship, and ends the game. In the last corridor of each maze, a powerful mother ship lies in wait for you. Destroy it, a task which requires several shots, and your energy levels are completely restored, bonus points are awarded, and you start the new maze at a higher difficulty level.

Spitfire Attack is a straightforward arcade-style war game. The view is from the cockpit of your airplane as enemy plane approach and attempt to shoot you down.

All in all, two suitably macho games, well-fitted to the two-fisted design of the Power Arcade controllers. And game play with the Flight Commander and Cosmic Commander systems is reasonably natural, although neither console provides the "precision control and pinpoint firing accuracy" promised by Milton Bradley. That may be all to the better, since both games, in spite of their elaborate and well-designed graphics, tend to become a bit repetitious when played with a regular joystick. With the Power Arcade controls in place, precise targeting becomes a more complex feat, thus removing some of the cut-and-dried nature of the games themselves. Maneuvering with the Cosmic Command console is further complicated by the fact that left and right steering commands have been reversed, with a clockwise twist of the handles serving to move the cursor to the left, and a counter-clockwise twist moving the cursor to the right. Whether that was an intentional design feature of the console or a manufacturing error, the reversal led to a good deal of initial confusion, not to mention quite a few destroyed spaceships on the part of yours truly. What I hope is definitely not a design feature is the fact that, on some occasions, when the fire button is pressed, the control panel lights and the sound effects motor revs, but the onscreen gun does not fire. Obviously, the units use two different switches to control the built-in effects and the fire control, but such lack of synchronization between the two only led to more confusion.

As obvious as those problems are, other drawbacks to the Power Arcade system begin to become apparent after one has logged in some "flight time" with them. One of the most annoying is that, with both of one's hands wrapped around the controller's handles, there's no way of steadying the base of the unit. Even with their rubber feet and the four "D" batteries that make them weigh-in at a hefty two pounds, in the heat of battle there's nothing to keep a Power Arcade controller from sliding around even the firmest of surfaces. In fact, unless Milton Bradley had built-in a set of wings that would have allowed a player to anchor the controller by straddling it (which would have been difficult, given the wide, rectangular shape of both units' bases) there's no way of preventing a two-handed console from moving during normal game play.

The lights and sound effects of both controllers did not prove to be a distraction. However, after some extended game play, the motor within the Cosmic Commander unit switched from its

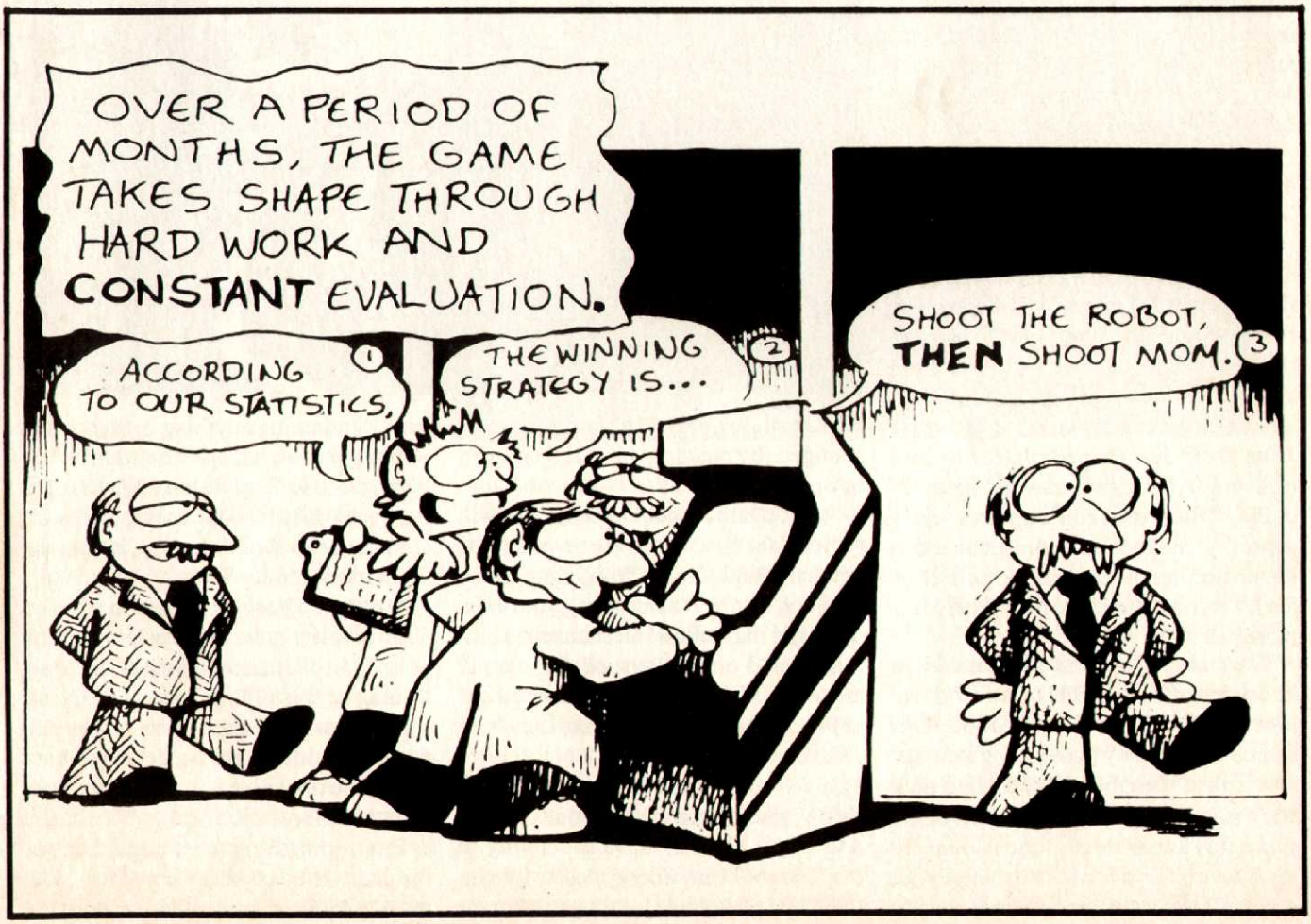
usual low-pitched hum to a decidedly unpleasant high-pitched squeal, accompanied by the distinct odor of melting plastic. I doubt that such a situation would be very dangerous, but it sure won't endear you to any family or friends who happen to be within earshot (or noseshot).

Other drawbacks to the system are not so much practical problems as they are aesthetic disappointments. It's well and good, fitting a controller out with gunsights, flashing radar screens, and buzzing motors, but none of these frills has any direct connection to the games being played. Granted that calibrating a real, live gunsight to an image on a video screen would be next to impossible in a home environment. But if Coleco could find a way of triggering a tape recorder from the 2600, as they do with their KidVid sound module, then surely Milton Bradley, with their extensive background in trailblazing electronic games, could have found some way of, say, flashing a warning light when some form of danger is imminent, or activating a solenoid to "kick" the control unit when a collision takes place. As it is, the "son et lumiere" show of the Power Arcade controllers is more for the enjoyment of those people who are watching you play, since any gamer worth his or her salt is too intent on what's happening on the screen to pay attention to the pointless flashing and sound effects.

As for using these controllers as replacement "sticks" for other games, I'm afraid that any attempt to do so would be a study in frustration. Control is so imprecise that in the more demanding games, such as Star Raiders or Defender, even the simplest levels would be impossible to get through. As for games like Pac-Man or Miner 2049er, forget it: The controls are not at all suited to them.

No, neither Flight Commander nor Cosmic Commander will make me throw away my WICO. But when mated with their own games, which are much more forgiving of the two units' shortcomings, the total system can provide an entertaining challenge. My preference leans towards the Flight Commander and its soul-mate, Spitfire Attack. The clockwise/right-counterclockwise/left steering system is more logical than the Cosmic Commander's reversed set-up. As for Spitfire Attack, its game play is a little more varied than Survival Run, and features slightly better graphics, particularly in the animation of the enemy planes and the explosions. The only drawback to this game is that, when your plane is destroyed, you're not always sure of the reason. You don't see the enemy's tommy gun fire, or the flak actually hitting your plane, or the ground rushing up meet you. All you get is a flashing screen, which is a less than useful indication of what you did wrong.

The idea of two-fisted controllers, permitting a player to grab ahold and put his entire body into the game play, is a very appealing one. Milton Bradley has made a pretty good attempt at translating this concept in these two controller/game packages, but the realization falls just slightly short of the mark. Still, this may be just the thing for younger gamers who demand more involvement from a video game than just the same old joystick. The look is right, and the games aren't bad, but the unity isn't there. ▲



Cartoon by Tim Skelly

Arcade Games

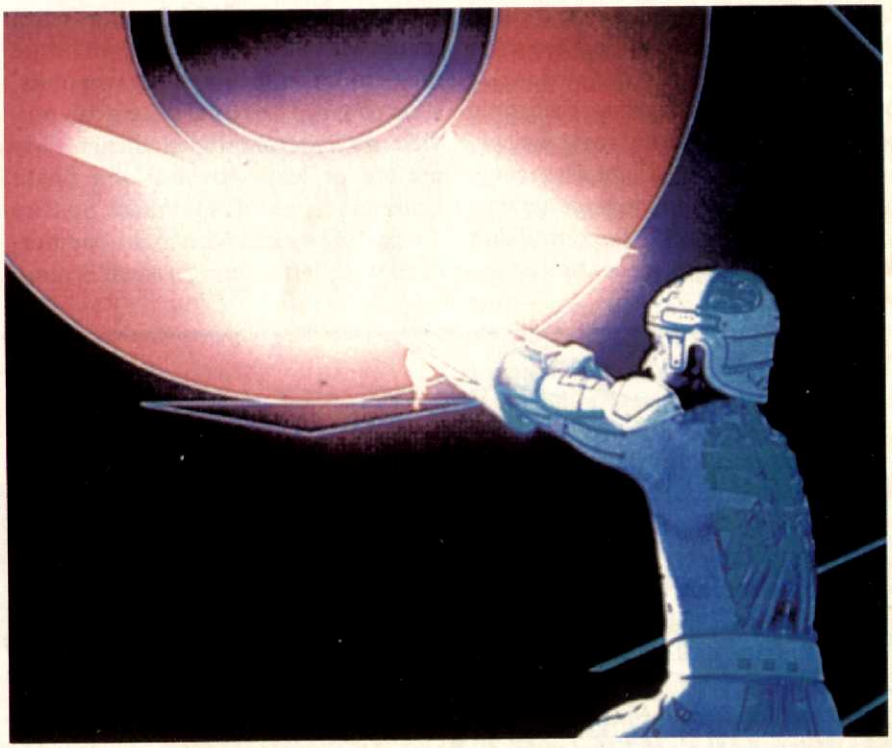
Playing Tips and Strategies

By Steve Harris

DISCS OF TRON

In 1982, when Bally/Midway released their Tron video game to coincide with the Walt Disney picture of the same name, interest was immediately sparked. A sort of criss-cross developed because those who saw the movie, wanted to try the game, and those who played the game, wanted to see the movie. This partnership of game and movie not only contributed to both sources, but showed how well this type of 'co-advertising' worked.

Bally has struck again with yet another Tron game. Discs of Tron utilizes just one element from the movie, rather than four, like the first Tron game did. The theme of this game comes from the 'disc battle' scenes in the film. For those of you who didn't see the picture, the disc battle involved the hero Tron and his nemesis, Sark. While fighting, Tron struck a hit, the bad guys would fall from their disc-shaped platforms into oblivion. Although it may not be as exciting, Discs of Tron captures every aspect of the movie. From ricocheting the projectiles off the wall, to deflecting Sark's return blasts, the new Tron game recreates it all.



The main objective in each round is to knock Sark (in red) off his platforms two times to advance to the next round. This is accomplished by positioning a cursor (controlled with the rotary dial) to pick the location Tron will throw his discs. Since it is a true three-dimensional environment, it is possible to bounce your shots off the walls, and in later rounds the verticle trajectory of the discs can be changed (by pushing the dial control in or out.)

As you are attacking Sark, he will return your fire. There are several ways you can eliminate his in-coming discs. You can destroy them, using your own discs, use the 'deflect' mechanism (a button located on the joystick), or simply move out of their way, being careful not to fall off the sides of the discs on which you stand.

If too much time is taken, Sark will throw other weapons at Tron. Chasers and Super Chasers have the ability to track down Tron. Energy pellets split into several pods while heading toward the wall, eliminating anything in their path. Subsequent waves add the number of discs, place walls and electronic barriers between the two combatants, and even change the level of the main discs, making it harder to hit Sark.

Strategy: The strategy used in Discs of Tron revolves around the positioning of your Tron character, as well as the positioning of the aiming cursor. While all the screens have their own subtle differences (adding disc platforms or barriers), the objective is always the same: Knock Sark off his disc.

First, something must be said about the enemy objects thrown at Tron. The most prevalent projectiles are Sark's

discs. Remember, these can be avoided in several ways. The best method, however, is to use the 'deflect.' Since you are given 7, (which is more than enough) it is best to utilize them whenever an orange disc approaches. If one of the discs hits Tron while he has his shield up, one will be subtracted. If not, you will go unscathed and still have 7 remaining.

Energy pellets present little danger. Simply move out of their way after the main pellet explodes. Be cautious, though. In later rounds the energy pellet will separate into three Chasers.

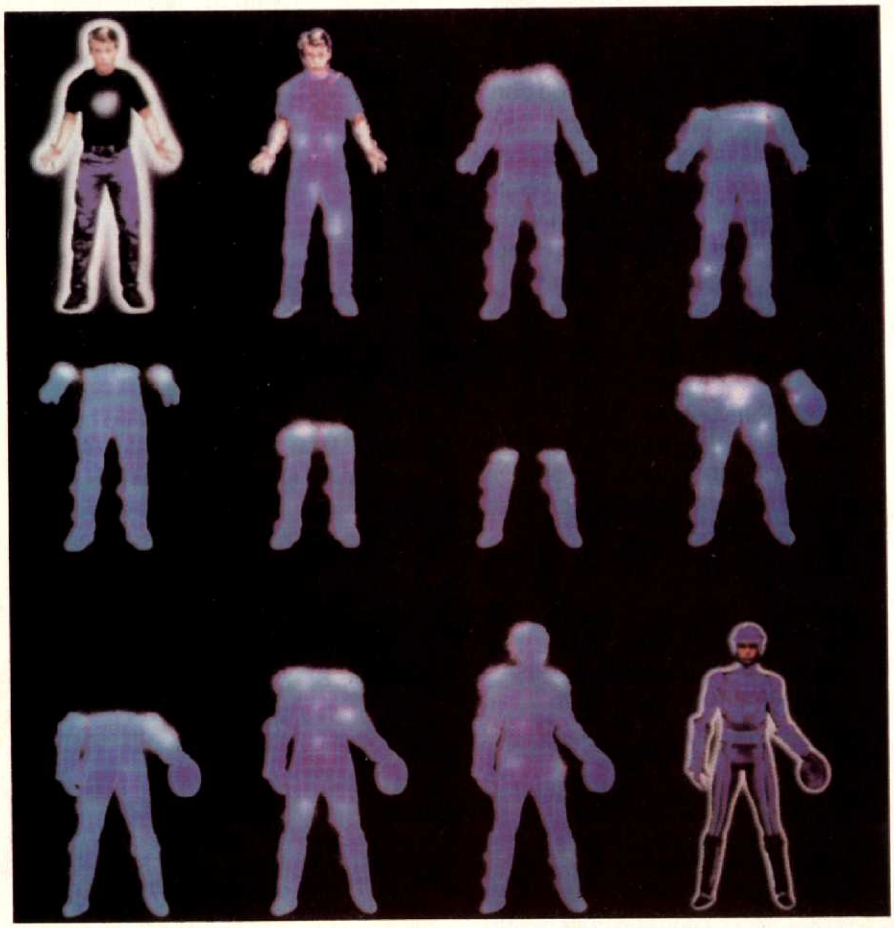
Chasers move slowly, and unrelentlessly, toward Tron. Simply avoid them, instead of taking the time to destroy them. As they start to home in on Tron, move to the back of a disc and wait until they near. When the Chasers begin to close the gap, hop onto an adjacent platform and reposition Tron at the front of that disc.

Super Chasers react in the same manner as their slower counterpart, only they move a bit faster.

Rounds 1-2-3/Familiarization with play mechanics: The first three boards of the game present little challenge. They do help you learn how to position the cursor and allow you to get in some target practice as well.

In round one, merely fire once with the cursor directly behind Sark, then, depending on his movements, fire a little bit to the right or left of the center of the platform. As the second Sark begins to materialize, quickly move the targeting sights behind him and fire when he appears.

The second round has 4 discs present, two for each combatant. You'll notice that Sark always enters on the disc adjacent to the one on which Tron stands. Use this to your advantage and try to 'squeeze' your enemy into a corner. Example: If Sark is on the left platform, position Tron on the right. To hit Sark, fire one disc just to the right of him to keep him from hopping onto the other disc. Fire your second projectile immediately after the first, a little more to the left than the previous one. Release your last disc directly behind Sark following that. What will happen is that Sark will get trapped with your first shot, and the second and third discs will either strike him head-on, or on a rebound off the wall. This is the main technique used in Discs of Tron, it is used on every screen except the 4th and 5th. Utilize the 'trap' strategy on the third board as well. Since there are three platforms present, fire once behind Sark to move him onto either one of the corner discs. After you have him positioned there, move Tron to the middle disc and surround Sark with your discs once more.



A second 'elimination' strategy comes into play on this board also. After you eliminate the first foe, there is an easy, and very effective maneuver to destroy your second adversary as well. Once the first Sark falls, quickly run Tron to the right disc. If the first Sark was destroyed while he was on his left-most disc, the second will materialize in the middle platform. If the first Sark died on either the middle or right disc, the next will enter on the left. After one Sark is destroyed, use the information above and position the sights behind the appropriate platform and fire as the second Sark begins to materialize. This will eliminate his presence before he is given a chance to fight.

Round 4 and 5: The hardest of all the rounds. Fortunately, they only appear once throughout the entire game. The first of the two has four platforms with a barrier in between, blocking all shots. The barrier begins in the center of the screen then, after about 30 seconds, separates into two walls on each side of the discs, leaving the middle open.

To begin with attempt the trap strategy. If you cannot kill Sark by the time the barrier splits, position the cursor about 1-1½ inches from either corner and fire away. Ricocheting discs will fly down, bounce alternately off the walls and the barrier before flying back. If you still cannot seem to hit Sark, the barrier will reverse to its previous shape. Once again, try to use the trap strategy until Sark is killed.

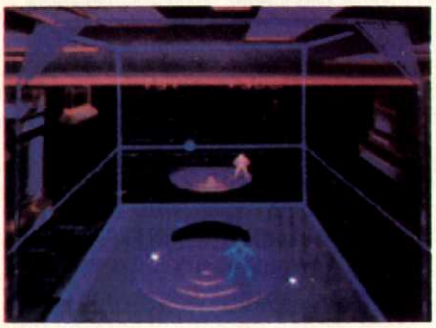
The fifth board is where Sark begins to really toss those discs. The main prob-

lem here is trying to get a clean shot at the enemy. An electronic impulse wall slowly travels in between you and Sark. The only way you can shoot through this impass is to first hit the wall to open up holes, and then fire through these holes to get to Sark. But, since Sark is throwing so many weapons himself, you may find it difficult to get past the wall, get past the on-coming discs, and still find the right location in which to hit Sark. There is very little strategy here. If possible, let Sark hit the wall, then you fire through the holes he's created. Besides that, simply fire continuously, and don't be afraid to deflect any discs.

Round 6: A repeat of the third, only faster. It is here you'll most likely encounter your first confrontation with a Chaser. Be careful, and use the previously outlined strategies to avoid them.

Round 7 and 8: Introduces the ability of verticle, as well as horizontal targeting. Even though this may seem like a commodity, it is much harder to keep track of both positions when it is not necessary. Simply use the original firing level and the trap and elimination strategies to end the rounds.

Rounds 9 and 10: The same as the two previous boards except that the platforms are now continuously moving up and down. Again, forget the verticle aiming and concentrate on Sark.



Rounds 11 and 12: Also identical to previous sets. They both have platforms which ascend and descend again and again, but another offense is given (to both opponents). Tron can now hit the ceiling of the arena (by pulling the knob *all* the way up) at which time they will zoom down and strike Sark's platforms. When a platform is hit, it will begin flashing white if not stepped on, several moments later it will turn red. If Tron (or Sark) still does not touch the disc, it will turn white once again, then disappear with a whoosh. This puts either warrior at a distinct disadvantage with less maneuverability. You should be aware to make sure none of your discs dematerialize (they will return after a period of time), but don't bother hitting Sark's discs, just use the strategies to destroy Sark and advance to the next battle.

After round 12, you'll be returned to board 6. The game then cycles through

these 7 levels. Once you learn how to move Tron and the target sights in unison, you should have no trouble playing Discs of Tron as long as you want.

STAR WARS

Star Wars was a milestone in movie history, combining the high-action adventure of the '30s serials with the modern special effects technology of today to create a once-in-a-lifetime experience. Well, Atari's video game of the same name is every bit as good as its movie counterpart. It recreates the final chapter of the movie and turns it into an eye-popping laser battle, in space and on the surface of the dreaded Death Star.

As well as the incredible visuals, the game boasts not only the music from the movie but the voices as well. From Obi-Wan's reassuring reasoning, to Darth Vader's evil taunting, this game has it all.

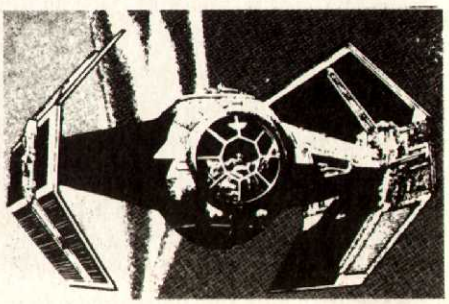
The game begins with the player choosing one of 3 waves: Easy (wave one), Medium (wave three), or Hard (wave five). With the increasing difficulty of each level, a higher bonus is awarded; Easy—O bonus; Medium—400,000 bonus, Hard—800,000 bonus.

Although the bonus level is chosen at the outset of the game, no bonus points are awarded until after the first Death Star is destroyed.

After picking the desired level, the game begins. You are in command of the 'Red-5' X-Wing fighter, armed with four laser guns and a defensive shield which can withstand 6-8 hits (depending on the operator's settings). Everytime you run into a tower or catwalk, or are hit by a fireball, the impact destroys one of the shields. Once all of your shields are gone, an additional hit will signal the end of the game.

As you approach the Death Star, Imperial TIE fighters zoom toward your position, firing deadly fireballs as they advance. The fireballs can be destroyed with return fire for 33 points apiece, as can the Imperial fighters which launch them for 1,000 points each.

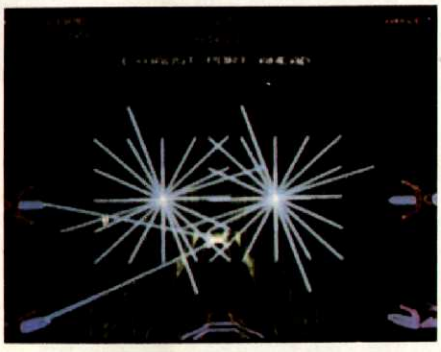
In later waves an additional enemy vessel will be present: Darth Vader and his specially-modified fighter. When Darth's ship is hit, it becomes disabled and begins spiraling into outer space for several seconds before continuing its attack. Each time Vader's craft is struck, an additional 2,000 points are awarded.



Once 30 seconds have elapsed, all the enemy ships head straight for the Death Star, with your craft close behind. As the space station grows larger, the perspective slowly changes, with your fighter now skimming the surface of the planet. On the face of the station are red gun turrets, worth 200 points each, and, beginning with round three, towers are present. Some of the towers are armed with white laser cannons on top, which scatter fireballs across the screen. The tower tops can be eliminated for 200 points for the first, and an increment of 200 for each additional tower top shot.

If all the cannons are destroyed, (a counter is located in the upper right portion of the screen) a 50,000-point bonus is given and your ship enters the trench of the Death Star. Once in the trench you must navigate past solar panels and laser cannons, while avoiding the fireballs they emit, to find the one weakness of the Death Star; the open exhaust port leading to the reactor core.

Beginning with the second Death Star, catwalks are inserted into the trench. These indestructible walls span across the fortification at varying heights and



lengths, requiring you to proceed in and out, up and down, until the exhaust port is reached, at which time a direct shot into the opening will release the proton torpedoes which will destroy the station. If the reactor port is missed, your ship will hit the wall directly behind it, losing a shield. The final sequence then repeats until you eventually hit the port and destroy the Death Star, eliminating it in a brilliant multi-colored explosion.

After the Death Star is blown up, you will receive 25,000 points for destroying it, and an additional 5,000 for every shield unit remaining. Another shield is awarded, up to the maximum number of 6 to 8. The starting wave bonus, if any, is also given. The game then resumes at the higher level of difficulty.

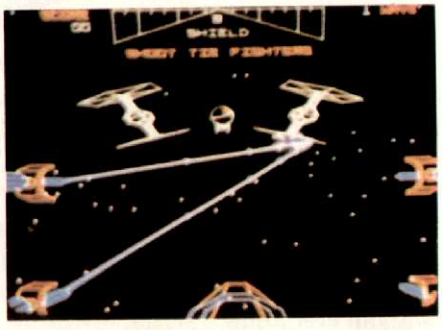
Strategies: Even though Star Wars becomes increasingly difficult, the basic strategies outlined below will work on any level. Each round escalates in difficulty by increasing the number of objects in the player's way, as well as the number of fireballs.

Scene One, the outer space dogfight, is one of the most challenging rounds in the game. There are two distinctively different strategies for battling the Imperial TIE fighters and ending the battle.

The first method, although dangerous, is more productive in terms of points. As the TIE fighters appear from the Death Star, simply line up your sights and fire. Be careful and shoot any stray fireballs that may approach when the background shifts. Since the fireballs move with the background, be alert after you destroy an enemy fighter.

Another way to complete this scene is to avoid striking the ships and concentrate on shooting the fireballs. This method awards fewer points but is much safer in the long run. Since the enemy fighters follow pre-determined flight patterns, you can determine where the ship will move next. Follow the fighter, shooting the fireballs as they're released. After wave 5, the TIE fighters reach their highest difficulty.

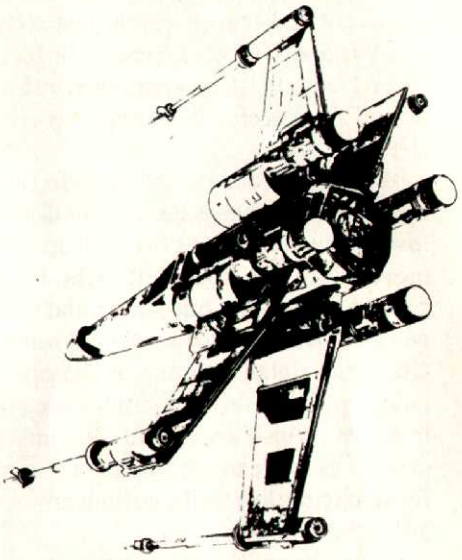
After the dogfight ends, you will swoop down upon the Death Star. If you started on wave 1 you will be transported to the trench. If you are on wave two, you must first strafe the space station, destroying the red bunkers which cover the surface. Descend as low as possible



and begin firing at the bunkers. They shoot fireballs, so try to eliminate them before they get too close.

When wave 3 commences, towers will also appear on the surface. Striking a tower takes away one shield and causes your X-Wing to lose control for a moment. Some of these towers are armed with white laser cannons which shoot fireballs. Hitting all the tower tops awards a 50,000 bonus, making them a worthy target.

One thing to note is that if you miss a tower top it will reappear again several times over, giving you many chances to hit it. Also, many of the tower guns are located to the right and to the left of your starting position, making it possible to get every tower top only if you journey to the sides. If you fly to the left and



destroy every top you encounter, you'll usually destroy them all and receive the bonus.

This round reaches its maximum difficulty on wave 11. After wave 11 the towers repeat previous pattern in a random order. Beginning with wave 14, the red bunkers no longer fire for the rest of the game.

The final battle in Star Wars takes place within the trench of the Death Star. This is the most difficult of all the Star Wars scenarios.

The first wave trench is defended solely by laser cannons situated on the sides of both walls. The fireballs have the ability to track your ship. If you are at the top of the trench the fireballs will rise in an attempt to strike you. Likewise, if you are at the bottom, the fireballs will descend appropriately.

The second trench, even with the inclusion of catwalks, is still quite simple. You'll notice that the catwalks block only the bottom and top of the trench and that the middle is left open. Stay in this safe spot and shoot any fireballs by firing left and right, while maintaining the same altitude.

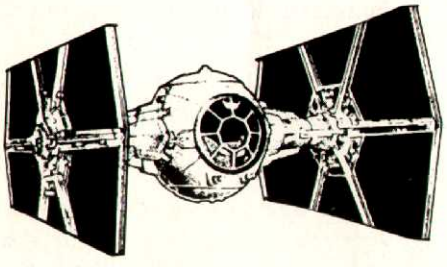
The trench sequence begins to increase in difficulty on waves 3 and 4. There are

not only more catwalks, but they are closer together as well. Most of the moves are up and down, but some of the walls reach to the top and bottom of the trench, so be careful.

Waves 5 and 6 are somewhat identical to waves 3 and 4 except for the insertion of additional catwalks. Stay to the bottom or top until fired upon, then either ascend or descend to the appropriate levels.

Wave 7 introduces the verticle catwalks. As this wave begins, fly down low. When the cannons fire, pull up and move side to side, right, left, right. Descend to the bottom once more and you will then see a series of checkered walls. Guide the sights into one of the open holes to make it through safely. The remainder of this wave should be spent as close as possible to the surface without flying into the low walls; go high only to avoid the fireballs.

Wave 8 begins like wave 6. After passing the first few walls, you will find yourself in front of a whole wall with just one space to navigate through. Again, place your sights into the opening to pass by. The first open hole is to the left and the second one is to the right. The remainder of this round is like wave 6,



although there is a set of vertical columns at the end.

Waves 9 and 10 are closely related except at the beginning. Wave 9 starts with whole walls, while 10 begins with horizontal catwalks. Both of these screens are difficult, requiring you to maneuver through several one-opening walls and past many vertical arrangements to reach the exhaust port.

The 11th time through the trench is the hardest. It starts out like wave 9, then changes to the end of wave 8. For the rest of the way down the trench various patterns from other waves are used.

After the 11th Death Star the trench sequence begins to repeat. The trench is divided into 8 sections, with each section being comprised of several barriers. It may start out as the 7th wave trench, then switch to a group of walls from the 9th wave, and change back to the 7th wave. Memorizing the patterns which the walls follow will allow you to play without ever losing a shield.

Secrets: The fireballs and cannons may be cleared with laser fire or they may be avoided. Evading the enemy installations and projectiles may seem a bit hazardous if not unproductive pointwise. But, unbeknownst to most players, there *is* a force in Star Wars. During the trench sequence in each wave, use the force and don't fire. Continue dodging the fireballs and catwalks until the exhaust port is reached, then fire your torpedoes. A 'force' bonus will be awarded, depending on which wave you are currently on:

Wave One: 5,000 points
Wave Two: 10,000 points
Wave Three: 25,000 points
Wave Four: 50,000 points
Wave Five-on: 100,000 points

You can easily see how using the force can quickly increase your score. Since the catwalks appear in the same fashion each time, you can develop patterns that will get your past the walls and the fireballs without firing. Try to use the force whenever your shield level is either at or near full power. If your shields are in the yellow or red, concentrate on building them back up to an adequate amount before attempting to utilize this trick again.

In conclusion, Star Wars is a fast-paced, challenging contest between you and Darth Vader's Imperial forces. This game should keep you well occupied until the enemy unleashes their second attack when Atari releases the Empire Strikes Back.

Until then, may the force be with you.

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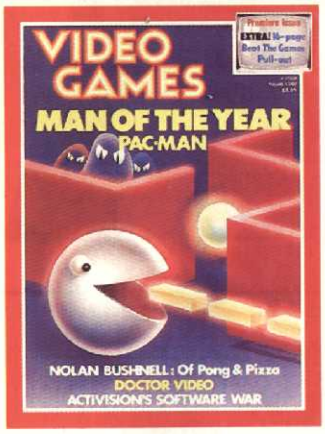

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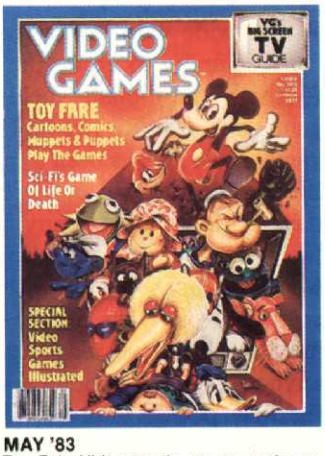

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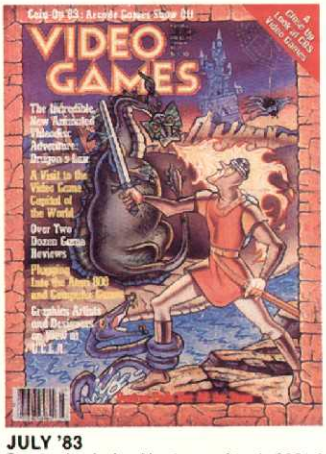

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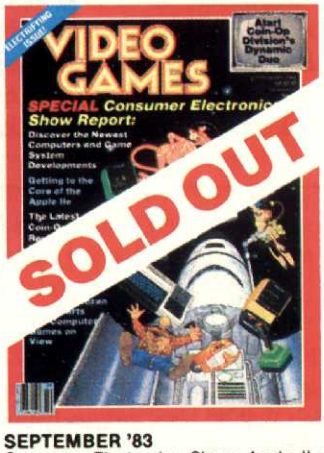

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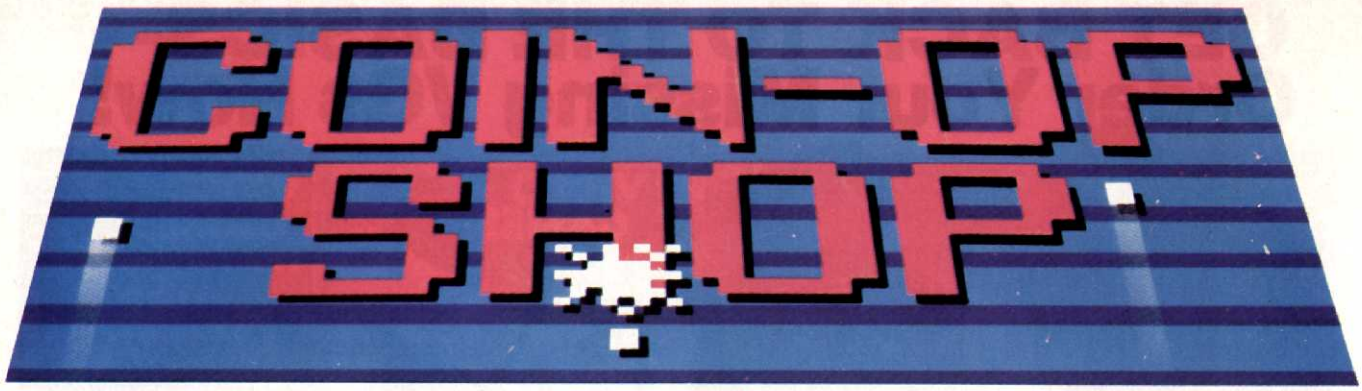


Arcade Games with a Sporting Chance

By Jim Gorzelany and Zelmo

The wide world of video sports is beginning to erode the dominant foothold traditionally held by space games on the arcade floors. True, sports games have always been a mainstay of the coin-op industry, dating back to the days of the original penny arcades. In fact, some of my happier days as a kid were spent in a seedy Downtown Chicago arcade, playing one of those old mechanical baseball machines (don't tell anybody, but my buddies and I used to file down pennies until they were the size of dimes in order to increase by tenfold the playing power of our allowances).

However, never have sports games been so much a part of the coin-op world than today. In short, sports games are h-o-t. Track & Field, for example, is looking more and more like the runaway hit of the year. Recent releases such as Championship Baseball, Pole Position (with its Pole Position II modification kit), Chexx, and Turbo continued to do business (in fact, you may still be able to find Atari's original video Football and Basketball games out there somewhere). What's more, recent game shipments promise that this is more than a brief blip in the video business.

Why the proliferation of sports games? There are many reasons. For one, the market is already saturated with outer-space, shoot-'em-up, and "cute" machines; for another, video games and sports both appeal to the same "target" audience: young males. Furthermore, sports games, because of their inherent physical nature, easily lend themselves to a more tactile form of machine. The button-tapping action of Track & Field, the football-like controls of Chexx, and the rollerball-swing action of the upcoming Birdie King 2 from Taito attest to this. You can expect to see many more of these types of games as the success of Track & Field fully catches up with the industry. (Remember how many joystick-controlled maze games hit the scene after Pac-Man became popular? How many climbing games appeared after Donkey Kong?)

Oh yes, there are other new games available besides sporting machines this month. Spy Hunter is a very unsportsman-like driving game; Major Havoc is a nicely done combination of several game ideas; while Dinosaurs offers some new twists and Mr. Do's Castle brings back an arcade star in a new adventure.

BALLY/MIDWAY'S SPY HUNTER

Bally's last driving game was Bump-'N-Jump (via a license with Data East), an aggressive over head-perspective affair that, at best, enjoyed only moderate success. This newest effort, Spy Hunter, is an aggressive, overhead perspective game that the company hopes, will enjoy a successful run.

Spy Hunter is basically a dressed-up, higher-tech version of Bump-'N-Jump with James Bond overtures. By means of a steering wheel, gas pedal, and high/low shift, you control a typical secret agent-type sports car in pursuit of nefarious enemy agents. You chase them across a never-ending sequence of roads and bridges. Who they are or why they are chasing you is unknown. There's obviously no time for questions in this kill-or-be-killed video world. Four steering wheel-mounted buttons control special weapons such as machine guns, oil slicks, smoke screens, and missiles which are obtained during the course of the game.

At the beginning of the game, a weapons van will pull off to the side of the road, unload your machine-gun equipped vehicle, and leave you to the hunt. You must either shoot-down or bump your foes off of the road for points, while avoiding the civilian cars and motorcycles. Scoring is based on a combination of foes killed and distance covered. Your four enemies are each equipped with a different deadly weapon including guns, bombs, armor, or knife-wielding hubcaps. Every time you enter a new sector unscathed, the weapons van will seek you out. If you drive back into the truck without crashing, you will obtain an additional weapon.

Initially, Spy Hunter is a timed game. You're allowed an unlimited number of crashes during the timed phase of the contest. However, once time runs out, a crash will end the game unless you've earned bonus vehicles (at preset point intervals.) You'll crash if you either drive off of the road, get bumped off of the road, or crash into another vehicle.

Visually, Spy Hunter is about on a par with Bump-'N-Jump—detailed, but not extraordinarily so. The sound effects are well-executed, and give a dramatic feel to the game (I especially liked the "Peter Gunn Theme"). Your spymobile handles well, but is a bit on the overly responsive side. I do not advise driving full-throttle without many quarters' worth of practice.

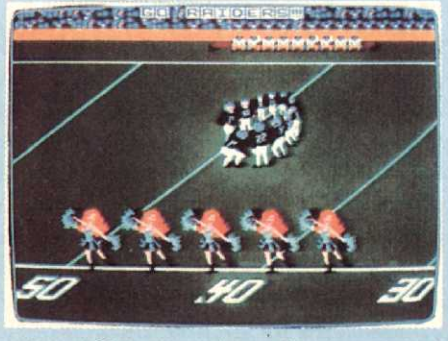
On the whole, I feel lukewarm about Spy Hunter. It's well-constructed, but isn't particularly compelling. The only real variety here comes late in the game when the killer helicopters come after you. A welcome, but rare feature allows you to drive off of the road, into a boathouse, and temporarily continue the chase on water in a speedboat. I would have preferred a behind-the-wheel game perspective here, complete with a top-screen rear view mirror to warn of attacks from the rear. For me, Spy Hunter is a driving game without a driving force behind it.

BALLY/MIDWAY'S NFL FOOTBALL

Sports critics generally agree that 1983 was one of the most lackluster seasons in the history of the National Football League. Watered down by the emergence of the rival United States Football League, and hampered by poor scheduling and the lack of truly dominant teams (even the venerable Dallas Cowboys faded in the stretch), this past football season was a real yawner.

Mercifully bailing out us Sunday-afternoon football fanatics (just in time for the second spring season in the hapless USFL) is Bally/Midway and its new interactive laserdisc machine, NFL Football. Developed jointly with Advance Video in San Diego, under a license by the NFL, this game is an armchair coaches' dream.

In NFL Football, one or two players assume the role of head coach of either the San Diego Chargers or the Oakland Raiders (the footage was shot before the champs of the Super Bowl XVIII moved to L.A.). In a two-player game, participants play head-to-head (an opening coin toss determines who starts on offense). In one-player games, participants



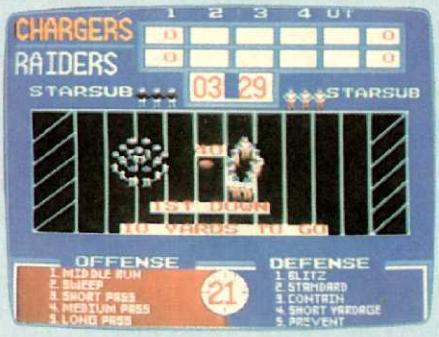
play offense against the computer. Basically, you call the plays on offense—long pass, short pass, screen pass, run up the middle, or sweep, or the formations on defense—blitz, contain, stand, short yardage, or prevent. (Obviously, if these football terms are foreign to you, you'd best find another game.) The computer figures out the probability of the play's success and net yardage, given the defensive formation, down, and field position. The laserdisc machinery then takes over and shows you how the play turns out.

Now, taken at that description alone, NFL Football might seem about as exciting as a Tampa Bay Buccaneers-Baltimore Colts fumblefest. However, the game is extremely well done—much more so than Stern's Goal to Go laserdisc football variation. NFL Football features 400 individual laserdisc plays taken from the past three seasons' worth of Raiders-Chargers matchups. The laserdisc footage was culled from the generally superior cinematic files of NFL Films. Each play is accompanied by realistic crowd sound effects, and is de-

scribed with verve by a play-by-play announcer. A computer voice announces the result and net yardage (if any) after each play.

Even the business that leads up to the laserdisc play reenactment is nicely handled here. At the onset of each play, a computer-graphic screen details the current field position, scores, play/formation menu, and other pertinent information. The buttons used to select one of the five plays or formations are hidden from an opponent's view by a football-shaped shield. After the plays and formations are selected, a well-detailed sideline perspective graphic of the field is shown, revealing the formations of both offensive and defensive players. Here, the crowd in the background (a sellout!) will appropriately flash cheer cards, either "GO RAIDERS" or "GO CHARGERS," depending on which team is on offense. When you score, a group of attractive computer-graphic cheerleaders will merrily shake their pom-poms and dance across the screen in celebration.

One problem with NFL Football is that there's not much to do here but strategize on a limited basis. You have no control over your players—there is no opportunity to scratch and claw for a few extra yards on a busted play. How-



ever, in an attempt to counteract this factor, Bally has added a "Star Sub" feature that allows you to make up to three player substitutions per quarter. By making a star sub, the probability of success for the play is increased, thus simulating a coach's sending in a key player on a crucial down. Also a drawback is that each offensive series automatically begins on your opponent's 40-yard-line—the game doesn't allow for kickoff or punt returns (or penalties, for that matter).

Criticisms aside, NFL Football is an interesting, attractive package. However, this game does not come cheap. At 50 cents per player per two-minute period, it's no wonder this machine accepts up to $5.00 bills. (A two-player, four-quarter game would thus cost $4.00, leaving a dollar in reserve just in case the contest goes into overtime.)

Let's face it, if you like to sink your money into an aggressive, more interactive type of game, NFL Football is not for you. This is a "call the play, sit back with your friends, have a beer (or soda), and watch what happens" type of contest. However, if you're the sort of person who regularly screams, "I could call the plays better than that" during Monday Night Football, then this game is certainly in your league. What's more, you can enjoy NFL Football without having to put up with the likes of Dandy Don and Howard Cosell.

ATARI'S THE ADVENTURES OF MAJOR HAVOC

As a coin-op manufacturer, Atari's forte has traditionally been in creating superior vector graphics games. From their first vector success, Asteroids, to ther more recent visual tour-de-force, Star Wars, Atari has consistently been able to use vectors in increasingly entertaining ways.

The Adventures of Major Havoc is no exception. It combines in one attractive package a number of established video concepts such as outer-space slide-and-shoot, maze, and fly-and-dock games, to name a few. It's almost a "greatest hits" version of several other games you've played a million times before. Luckily, the vast amount of care and eye for detail that obviously went into the creation of Major Havoc shows, and saves it from merely blending into the arcade blur.

In Major Havoc you are the title character who never really appears in the game per se. Instead, what you control are your clones. Thus, when one of your clones is destroyed, another immediately jumps into the fray to take his place. You, as the Major, technically remain unscathed. (This is a nice rationalization for the ordinarily illogical multiple-life aspect of most video games.)

At the onset of the game, one of your three clones enters a "Catastrofighter" spaceship and blasts off into the heavens. A scanner screen previews your first squadron of foes, the Fishoids. The Fishoids, as their name may suggest, resemble intergalactic flying fish. These deadly creatures fly and fire at your ship, located at the bottom of the screen. Your ship moves left or right by means of a bi-directional roller controller. Your rapid-fire lasers are controlled by a fire button. You'll lose a life if you're either hit by the Fishoids or their weapons (the same holds true for all other enemies in the game).

Once you've wiped out the Fishoids (which is an easy task if you've ever played a slide-and-shoot game), you must dock your Catastrofighter with the Fishoids' mothership. This is accomplished by gently guiding your ship with the roller controller as it descends upon a pulsating docking pad. Easy does it, though, because if you miss the docking pad you'll lose a life.

After docking, your clone will be at the top of the maze-like mothership. The entire maze is not visible on the screen at one time. It scrolls horizontally or vertically with your movement. By running and jumping up or down to various levels, your clone must activate the ship's reactor, then escape from the mothership before it explodes. Here, the roller controller is used to make your clone run to the left or right; the faster you spin the controller the faster he'll run. The fire button controls the clone's jumps; the longer you press the button, the higher the jump (don't worry, if you forget this, the computer will remind you of it if your jumps keep coming up short). By using the roller controller and jump but-

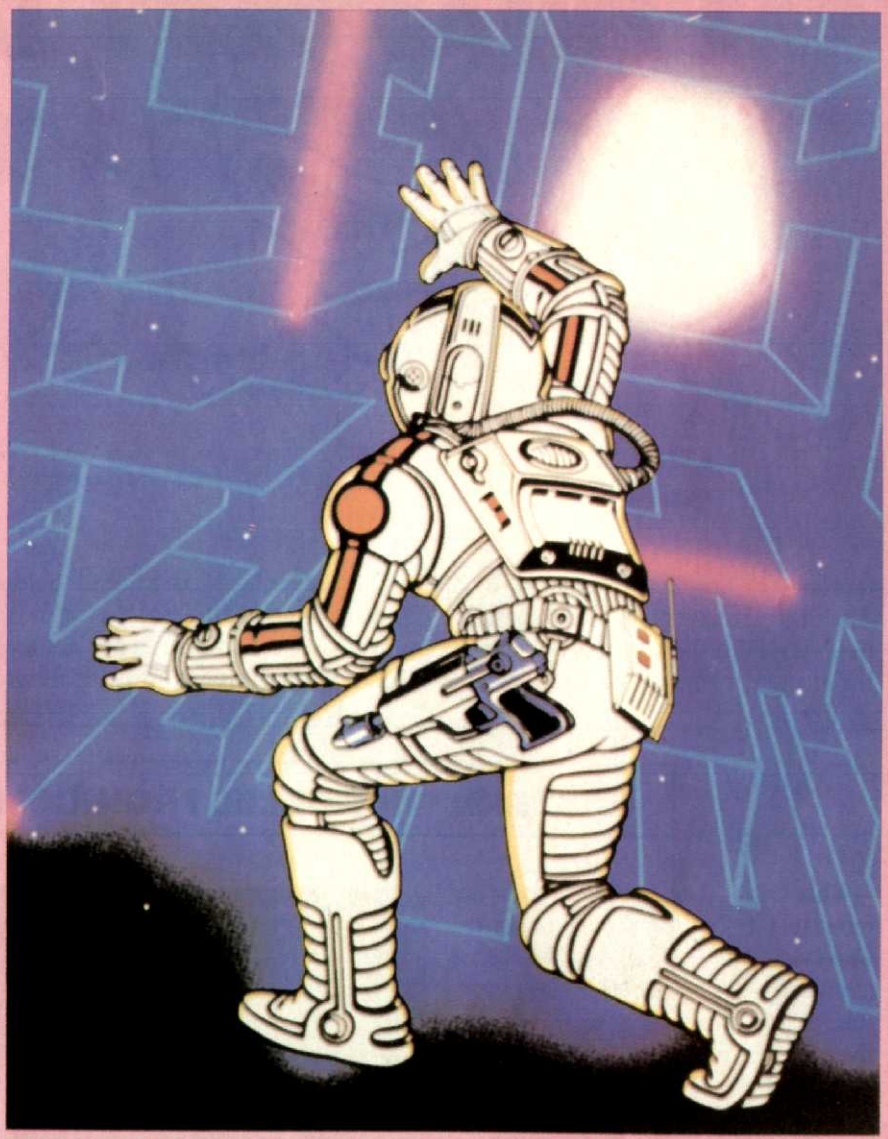
ton simultaneously, you can control the speed, direction, and angle of jump all at once.

In this and other mazes are a host of creatures with interesting names—Mazoids, Ovoids, Perkoids, and so on—who will attempt to block your path. Since you have no fire power in the maze, all you can do is avoid them. A top screen shows you the locations of your foes in the maze. Arrows both lead you to the reactor and point the way out of the maze once the reactor has been activated.

If you make it out of the mothership alive, it's back to the slide-and-shoot action where you battle a more aggressive set of aliens, the Flyboids. After that, it's on to a more complex reactor maze.

After the second mothership maze, you must carefully steer your spaceship through a three-dimensional space maze that, of course, is inhabited by aggressive enemies that just beg to be blasted into space dust. From there, the game progresses at higher levels of difficulty.

Major Havoc successfully mixes game genres with a nice degree of style and panache. The graphics are slick and full of interesting touches. For example, in the mothership mazes, your clone will crash to the floor appearing to be momentarily dazed after a fall or a bump into a wall. If you don't move him within a few seconds, he will fold his arms and tap his foot impatiently. What I like about Major Havoc is the shifting of gears that is necessary to play the game well. You need to be fast and aggressive to succeed in the slide-and-shoot screens, deftly subtle to dock your ship, quick and wily to activate the reactor and escape the mothership mazes unscathed, and so on.



Taken alone, none of the individual games that make up Major Havoc is that spectacular. However, when the concepts are put together and combined with Atari's always impressive vector graphics, Major Havoc is an entertaining, challenging outer-space contest.

UNIVERSAL'S MR. DO'S CASTLE

When Universal first introduced Mr. Do back in December of 1982, it really didn't set the video game world on fire. Instead, it slowly built up a following which helped to sustain interest and ultimately made this game one of the most successful conversions to date.

Well, now with the concept of spin-offs having become an integral part of the coin-op scene, Universal is back with Do's newest challenge.

This time around Mr. Do is out to get a cast of unicorns in a game that bears almost no resemblance to its inspiration. In fact, if anything, Mr. Do's Castle owes more to Universal's Space Panic which appeared in 1981. Using a joystick and button control, players must maneuver the game's lead character through a vertical maze of ladders and blocks. Anytime a unicorn gets in the way, Mr. Do can hammer out a block (activated by the button) and trap his adversary, allowing our hero to then knock the unicorn silly with the hammer.

The idea is to time this action so that you might luck into dropping one unicorn down on top of another for increased point values. However, the removal of certain blocks can also be used as a protection so that you can continue on your merry way. In addition, Mr. Do has the ability to remove any ladders so as to further cut off pursuers in a challenge where you're trying to get up to the top of the side of the castle.

Along the way, Mr. Do is out to drop three specially marked key blocks. Once this is accomplished, a shield symbol will appear at the highest placed doorway on the screen. Wipe this out and the unicorns will suddenly change into let-

ters spelling out the word E-X-T-R-A. The objective at this point is to either hammer letters through any openings in the blocks, or guiding Mr. Do so that he can jump on top of a letter below. Finish off all the letters and a flag is run up on a pole signifying your achievement. Get five flags up the pole and you're awarded an additional Mr. Do.

Given the developments directed at upgrading the basic play action of video games during the past couple of years, Mr. Do's Castle might well be seen as a throwback to another era. With a setting and onscreen visuals that remain basically the same from one level to the next, what's presented here isn't anything that we haven't seen already.

There are some interesting touches, such as the last unicorn who will change and split into a number of blue unicorns if he isn't struck down within thirty seconds. And, if the blue unicorns can't be eliminated in the same time frame, they too will split into double unicorns. This means the opportunity to score more points and results in faster-paced action, but in the final analysis Mr. Do's Castle suffers from a lack of fresh ideas.

—Zelmo

EASTERN MICROELECTRONICS' DINOSAURS

This New Jersey-based company recently hit the coin-op scene with a novel video-game creation called Hoccer (January, *Video Games*). Following this, EME has chosen an imaginative theme and some familiar play action with the introduction of Dinosaurs.

Conceptually, Dinosaurs isn't too bad, especially for those wanting to become more familiar with prehistoric species. What's nice about the game play is that it allows some individualized strategies in terms of digging holes and connecting one large area to another. The graphics are pretty good and the story line hangs together, although Dinosaurs might lose something for players who are able to quickly master the early rounds and are then stuck doing the same thing over and over again.

But in viewing this and Eastern Micro's previous game, this company is at least trying to be inventive, and with a few more models like these to give them a track record, they might be ready to leap much farther ahead in terms of design applications and capabilities.

Featuring a screen that might cause players to wonder if this is a Dig Dug or Mr. Do spin-off, the game design is a bit more original. Players are on a search to unearth bones of ancient dinosaurs, while avoiding a cast of monsters and other obstacles. The play area itself has been divided into 100 squares which must be cleared away to find out what's underneath.

For each hole, or square, you're able to dig up there's fifty points, although when you connect up one hole with another, or one area with another larger area, there's even higher values determined by the amount of total space that's affected. In addition, for each monster that you kill, by shooting arrows at them, you're awarded 200 points.

Everything isn't that straightforward however (when is it ever in video games?), since you can't cross over holes you've already made and fires lurk around the board to wipe you out. What comes in handy when things do heat up or you're trapped, is your ability to switch over to a flying carpet for a limited amount of time. You not only travel faster above the dangers below, but you can drop stones on the earth to uncover more dinosaur parts. However, you have to make sure that when your flying carpet disappears, you don't land in a hole and lose a life.

There are three different dinosaur skeletons to unearth, with each divided into four parts. Finish off the first round by uncovering all the bones of the dinosaur, and you gain an extra life before moving onto the next round and another skeleton. Complete all three archaeological digs and you return to the beginning, only the level of play is more difficult.

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Coming To Terms With The Pinball Revival

By Zelmo

I have been writing about pinball games for the last few months and wanted to take this opportunity to explain some of the terminology I use in my reviews. I would also like to invite any readers to write to me at *Video Games* if there are any questions you have about specific pinball machines or any terms you use which are different than mine. I know that particular features might be called by one name in some regions of the country, or something else in another.

As for myself, when first looking at the machine, I tend to focus on playfield components which interest me the most, and how they have been utilized in the design and programming, before I see what else has been laid out. Personally, drop targets are a favorite. They're usually rectangular or square pieces of plastic which, when hit, will drop down into the playfield board. Although they might be seen in some models standing alone, for the most part, you'll usually see them in a line or 'bank' of anywhere up to ten, which is the maximum I've ever seen over the years.

Stationary targets are another feature. These can look similar to drop targets in shape, or even be round. The difference, however, is that when they're hit they remain standing on the playfield. Thumper bumpers are those round objects which are normally clustered in a given area on the board, although they might also be placed, individually, when a designer is looking for a way to provide more action to a portion of the playfield. This is one component of pinball which supplies a major portion of the action. When a ball comes in contact with any thumper bumper, it is propelled off, or rebounded into another area which might be in any direction on the board.

Admittedly, this action can be extremely fast and tends to give pinball a measure of unpredictability in the scheme of things. Another feature which has the same effect, to a limited degree, are sling shots—so called because they will actually 'sling' the ball away in the opposite direction. These are recognizeable by their use of stretched rubber bands which are usually covered by some plastic graphic overlay at the sides or bottom of the board.

A kick-out hole, really the first mechanical feature ever presented on a pinball machine (back in 1932), is a round saucer where the ball can land and rest for a moment. Sometimes this is only a momentary stoppage in play as the appropriate point values are recorded, but this feature is also commonly used in multi-ball games. In these cases, the ball will be 'held' or 'locked' until some other action occurs to release the ball into play.

Spinners are one of the most visually pleasing targets found on a pinball machine. They are usually rectangular or square shaped and are suspended just a bit off the board. When a ball passes through, a spinner will begin to revolve in response to the velocity of the shot adding points and sound effects in the process. Another feature, which isn't used that frequently, is a captive ball target. Here another ball is 'trapped' on the playfield in a narrow tube which might have a target, or even drop targets behind it. The objective is to hit a ball precisely and with enough velocity so that it can strike this area and propel the captive ball up.

Roll-over lanes can be found almost anywhere on a game, such as the top of the field, or at the sides. They get their name from a switch which is placed at some point in the passageway. When a ball passes through or over it, an appropriate letter, number, or some symbol, is normally scored. Return lanes are similar in use and function, although they might not have a switch. Their purpose is to lead a ball down to the flipper and are normally located at the lower portion of a playfield. Lanes provide a way to affect the direction of play, depending upon their position, shape and angle.

Often, you'll find a lane with a spinner in the front of it. Sending a ball through will usually result in access back up to the top of the field. When designers want to supply some elevation to their game play, they'll use a ramp lane that can lead a ball up to another playfield, or over to some portion of the board that could not be reached otherwise as directly. A horse-shoe lane is a U-shaped feature which can be entered from either direction on the board and is just another variation on the many ways lanes can be used in pinball.

Although there have been many other features to be found on pinball, these are the primary ones which are normally used in some combination on most games. However, whether any or all of these components are present, there is one feature which is a staple of a *pinball* machine. In fact, without it, a game

isn't a true pinball machine even if it has a rolling ball and some other recognizeable features normally associated with pinball.

What I'm referring to are flippers. Shaped like little baseball bats, they're the single most important way that players can have control over the action before them. If anything, flippers can influence speed, direction and the general tempo of any game. Activated by buttons on the side of the cabinet, they're usually found in pairs and at the bottom of the playfield. They have also been known to make their presence felt when placed elsewhere on the board as a way to heighten the interaction of a player and help give more ball movement on the sides, top or middle. Whenever there are more than one set of flippers present, except in some extreme cases when design was predominantly focused on double or triple level playfields, any additional flippers can be controlled by that same set of buttons on the side of the cabinet.

And that wraps up a brief overview of pinball terminology so that those of you who might be discovering flipper games for the first time can know just what all those strange looking shapes and objects are under the glass. As for pinball in general, their return on the coin-op scene has been apparent in the past months. Many locations around the country which had previously only offered video games, are suddenly beginning to add one, two or more of the latest pinball machines to their line-up as players continue to show that they're willing to diversify their coin-op entertainment to include this long time staple of the arcades. This month there's something new as well as the return of a classic which we'll turn our attention to.

Game Plan's Sharpshooter II

Here is a company which began business manufacturing sit-down cocktail table pinball machines back in 1978, when the popularity of flipper games was at its height and almost any format had a chance to survive. More recently, Game Plan has tried to keep things going with some video game efforts that haven't really had an impact in the marketplace. However, there was one shining moment for this small coin-op game producer when they unveiled Sharpshooter in 1979.

Designed by *Video Games'* own editor, Roger Sharpe, the pinball machine proved to be an outstanding performer during its time, with many considering it to be a true pinball classic. Hoping that lightning might strike twice, Game Plan has slightly modified the original playfield design, added some new graphics and sound effects, with the final result being a game that hasn't lost any of its luster or appeal over the years.

At the top, three lanes begin the action (S-H-A) which lead down to two thumper bumpers and two stationary

targets at the left. On the same side, just below this, are three more lanes with two providing the way to get more letters (R-P) and the far left one offering a 50,000 point reward. Move up and over to the right and there's a kick-out hole as well as a horse-shoe lane, with an outside spinner lane additionally in place for access back to the top of the board.

The primary feature on Sharpshooter II is at midfield. Positioned at a slight angle, on the left, is a bank of seven drop targets (S-H-O-O-T-E-R) which can mean bonus multiplier values up to 5X every time you finish the sequence. Meanwhile, at the lower right, you'll find two more thumper bumpers which add some very fast-paced rebounding and action to the flipper area with the left side offering a more conventional lane and sling shot arrangment.

What's nice about the game is that the design and programming of features have been thoughtfully integrated. For example, the lettered lanes can deliver a build-up in bonus multiplier value if a player can complete the sequence. In addition, once this is done, an extra ball is possible if you can make a shot through the top right horse-shoe loop or get the ball in the lower left flipper lane when either are lit.

The two top left stationary targets also have a purpose. Hit them and the thumper bumpers will light for increased points. As for the spinner, get to at least 2X multiplier value and it will light to score 1,000 points per each revolution. With the kick-out hole there's instant access to bonus multipliers as well as additional points that are tied in with the lettered lanes along with the horse-shoe lane. This spot can also mean a special when lit, or 20,000 points each time you land it.

Finally, saving the best for last, there's that long bank of drop targets. Placed enticingly close to the flippers, hit down all seven and the bonus multiplier increases until you reach the point where any of the targets will be randomly flashing for a potential special. In regard to this target area, it's totally accessible from either flipper, but you'll also find that a rebound off the lower thumper bumpers can sufficiently propel the ball over to hit any remaining targets still standing.

The balance in action is apparent on Sharpshooter II, from top to bottom and side to side. But so too is the element that what you've accomplished on one turn will tend to influence those turns that follow. There's a continuity to the play which is ably enhanced by very strong, thematically tied-in sound effects. With colorful graphics providing the flavor of the old west, you can't help but notice the spinner with its sounds of galloping hoofbeats or the gun shots which fill the air whenever you hit a drop target.

The excitement and enjoyment I felt when I played the original Sharpshooter is still there with this updated version. You have a full range of reverses off the flippers to key target areas, as well as some very satisfying long shots that blend together for a very cohesive feel.

Sharpshooter II remains a stellar example of solid, fundamental pinball design. There's something for everyone, with enough balance between features to sustain the challenge time after time. For those who might still remember back to when the game first hit, the passage of time hasn't diminished its inherent appeal. In fact, it's almost like welcoming back an old friend, who can be appreciated far more the second time around.

At a time when remaining domestic producers of pinball have taken the approach of returning to basics, Zaccaria is delivering games which are loaded with features and many special effects.

Zaccaria's Soccer Kings

Based in Italy, this manufacturer has been a major force in pinball throughout Europe for many years. Although they had previously attempted to take advantage of the pinball explosion in America, back in the mid- to-late Seventies, without a great

(Continued on page 82)

WICO

COMMAND CONTROL™

Bat Handle Joystick

WHY TOP PLAYERS ARE GOING WHACKO OVER WICO.

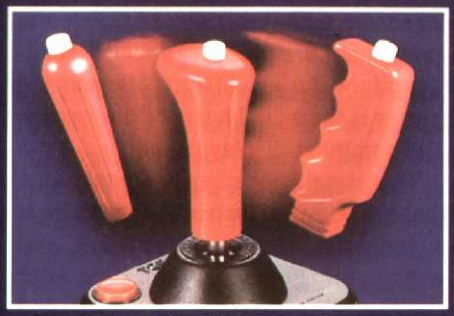
You know the feeling. It's happened before. Your score and initials are in lights on the arcade scoreboard. You've once again experienced the incredible response from the arcade controls to your own hand and mind.

You've been part of the WICO response.

Over 500 arcade games use WICO controls. And now those authentic arcade controls can be used with home video games.

Famous Red Ball™

WICO engineers ergonomically designed home joysticks with the same precise feel and response as the arcade joystick. Joysticks that truly fit the hand and the mind.



Three-Way Deluxe Joystick

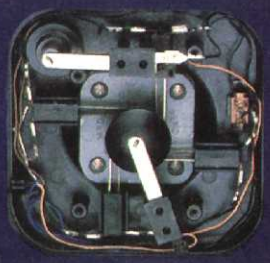
The "Bat Handle" and the "Famous Red Ball.™" The new "Power Grip.™" And the "Three Way Deluxe Joystick" that lets you change handles as easily as you change video games.

WICO features two fire buttons instead of the usual one. Rubber grips keep the base from slipping. And, of course, every handle is arcade size for the best grip.

Quick-action fire button

If you opened up the base of a Wico joystick, you'd see one thing. It's not a toy! Arcade owners have always demanded the finest in design, engineering and durability. And so should you.

Our electronically designed "guts" feature 6 Wico leaf switches instead of bubble-type switches. Our joysticks "exclusively" feature a Wico rubber diaphragm module for authentic arcade action and feel. And like all Wico controls, the base is made of heavy-duty, high impact ABS plastic construction that makes it virtually indestructible.



Unique WICO 6-leaf switch assembly

Wico brings 42 years of experience and know-how to the development of the world's finest joysticks. Arcade accuracy. Arcade control. Arcade durability. You're always in command with WICO.

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FOR THE ARCADE— AND NOW FOR THE HOME.

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SOFT SPOT

Designs On Video Games: Soaring Sights And Originality

By Mark Brownstein, Dan Persons, Ted Salamone and Mike Sittnick

Cube hoppers, robot blasters, one-eyed sailor men, you name 'em, we've got 'em. This has turned out to be arcade month at "Soft Spot." If you've been hanging around the game rooms in the past few months, then you'll have no trouble recognizing the roster of adaptations that we've gathered for your consideration, with a selection that runs from the cute and cuddly to classic shoot 'em-ups. No matter which game system you own, chances are good that there's something here to arouse your interest.

But, if you look past the arcade titles that dominate this month's reviews, you might notice three other games that never trod the boards at any game room. One's an adaptation of one of the most popular computer games of '83. Another is from one of the pioneer game companies and might just make you think twice about the capabilities of the old Atari 2600. The third is from a company new to the field, and dedicated to providing quality software for the struggling Intellivision.

What these three titles have in common is that they represent independent voices, companies that are attempting to bring innovation and originality to video gaming, without having to rely on the familiarity of a licensed title. Don't get me wrong. I have nothing against arcade adaptations. (Not if they're done well.) But it's good to see that the crash of '83 did not completely eliminate the spirit of adventure that was the hallmark of home gaming's boom year.

Onward, to meet some old and new friends.

—Dan Persons

SPACE SHUTTLE

(Activision/2600)

In 1980, Activision shook up video gaming by becoming the first independent game producer for the Atari 2600. Since then, they have consistently offered games that have expanded notions of what the lowly 2600 was capable of. Their most recent entries, Enduro and Robot Tank, are wonders of sophistication, offering both elaborate graphics and gameplay. Yet, even these impressive games are mere dress rehearsals in comparison to Steve Kitchen's **Space Shuttle**—A Journey Into Space. This cart could very well change the way the world looks at the 2600.

Let's get this straight: Space Shuttle is *not* a game. It is a full-fledged, strikingly accurate simulation of a mission into space, from take-off, to rendezvous, to touch-down at Edwards Air Force Base. There are three missions to choose from. The first is a "training mission" that basically gives you practice in the crucial take-off and re-entry phases of the flight and generally gets you acquainted with the sights and sounds of your ship, which is modelled upon the space shuttle Discovery. The second mission requires you to dock with six orbiting satellites before returning to Earth. The third adds the difficulty of a limited fuel supply to your already complicated mission.

At the top of the screen is your first-person view of space from the goggle-like windows of the shuttle. Dividing the screen in half is a pair of horizontal gauges that are used to adjust fuel consumption during lift-off. Below the gauges is the actual heart of the system: The computer display panel.

This panel consists of a digital meter that can be cycled through such readouts as fuel level, mission elapsed time, and various measurements indicating your ship's position relative to the earth and to the satellite that you are attempting to dock with. Under the meter is the computer screen. This is used to display various tracking screens that aid you in keeping the ship on course during take-off, rendezvous, and re-entry.

Controls consist of the color/black-and-white switch and the left difficulty switch to activate primary and backup engines, the right difficulty switch to handle the cargo bay doors and landing gear, and the game select switch to summon up various readings on the digital meter. The joystick controls both the main orbital maneuvering system engines and the smaller reaction control system engines, as well as your ship's flaps during re-entry.

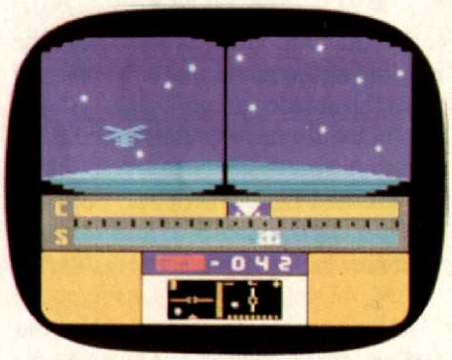
Takeoff requires you to fire your engines precisely at T-minus 04 seconds by pressing your joystick's action button, and then keep your ship on course as you escape the Earth's atmosphere. The computer screen displays the course of your ship during your ascent. You must modulate the fuel fed to your engines by pressing the action button to line up the manually controlled fuel consumption indicator with the computer driven indicator directly above it.

At 205 miles, you shutdown the engines. Then, after making minor adjustments of the ships vertical angle (otherwise known as "pitch") and opening the cargo bay doors to release built up heat, you are ready to begin your rendezvous with the orbiting satellites. The computer screen shows your orbital path as a sideways "S," not unlike the big display seen at Mission Control in Houston. Pressing the joystick button and moving the stick back and forth you must adjust your Z axis (pitch). Moving the joystick left and right handles the rotation of rotating the ship horizontally, or Y axis (yaw). Back and forth on the stick without pressing the action button accelerates and decelerates your ship's orbit, the x-axis. Each adjustment summons up the proper x, y, or z axis reading on the digital meter.

To successfully accomplish a rendezvous, you must adjust all meter readings to a value of zero. At an X-axis reading of 15 (essentially meaning that the satellite is fifteen miles away from you), the computer display switches to a pair of docking meters that help you make final course adjustments. The meter on the left depicts adjustments to your Z-axis as an up/down movement of a dot that represents the satellite, while adjustments to the Y-axis are shown as a left/right movement of the dot. The right meter showing the X-axis is depicted by up/down movement of that dot. Providing that you have decelerated to the proper speed, a successful rendezvous takes place when both dots are centered in their own crosshairs.

Docking with a satellite replenishes your fuel supply and sends the satellite shooting off to the far side of the earth. You can then opt for another docking, which will be harder to achieve since more fine adjustments are needed for each successive rendezvous, or you can activate your orbital maneuvering system to rotate your ship 180° in order to begin re-entry.

After performing your "de-orbit burn" to slow your shuttle's speed, you swing your ship around again to start your descent. Your glidepath is displayed as a zig-zagging course on the computer screen, requiring you to move a constantly descending dot horizontally



so that it follows the path, while also centering another dot in the center of a rectangle similar to the one displayed during takeoff.

During your final approach, the glide path is replaced by a pair of displays depicting your craft's course as viewed both from the side and from above. Keep the dot centered in both paths, don't let your nose drop, lower the landing gear at the right moment and, before you know it, you're safely home and the computer is welcoming you back and is informing you of your new rank, based on the number of satellites you docked with and how much fuel you used.

As it is, it took me a full half hour to dock with my first satellite, and another thirty minutes to dock with two more. The situation isn't helped by an instruction book that, at least in the prototype version provided to me, is far too sparse in illustrations and lacking in certain key details about the operation of your ship. Perhaps mindful of this, Activision has provided a card that condenses systems operations into a few easy-to-locate-and-read sections, as well as a template that can be layed over a 2600's control panel to indicate the functions of the various switches (sorry, owners of the Gemini and the ColecoVision and 5200 adapters, you will have to rely on your own memories).

Yet, if Space Shuttle is mind-bogglingly hard, perhaps it's because space travel *is* hard. In this respect, one has to credit Steve Kitchen with somehow managing to capture the full reality of a mission into space. Guiding your ship in three dimensions, consulting finely detailed computer displays, and making pinpoint course corrections gives the feeling that one is actually piloting a multi-million dollar shuttle.

Space Shuttle is not a game for everybody. It requires a considerable amount of patience and, perhaps not too surprisingly, quite a bit of brainpower. Players who seek only the viceral thrills of the standard shoot'em-up may ultimately find this simulation's complexity frustrating. But those of you who are ready for a richer, more sophisticated experience will probably recognize Space Shuttle for the monumental achievement it is.

—D.P.

ZAXXON

(Coleco/Intellivision)

With Mattel running into hard times, the flow of new games for the Intellivision systems has ground to a virtual halt. During the rest of the year Mattel has announced only three more releases. Attempting to fill the void, Coleco has finally released its translation of **Zaxxon**.

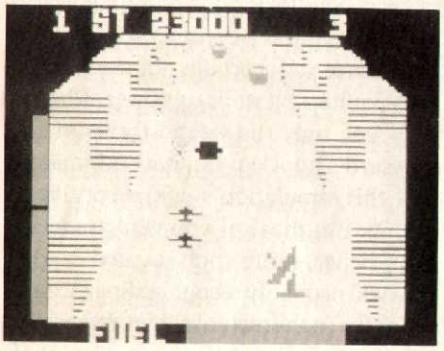
In case the reader is unaware, Zaxxon made a big splash when it first arrived in the arcades. The arcade version featured a new level of graphic resolution, with a space ship floating through a series of pseudo-3-D scenes (shadows indicated height, enemy missiles appeared to get larger as they rose up the screen). Once the basic maneuvers were learned by experienced players, the game reportedly became one that was easily beaten. The game was successful for, if nothing else, its excellent graphics.

The Atari version by Datasoft, and the ColecoVision by Coleco are also graphically excellent. Both versions

make very good use of the hardware that the game is being played on.

Perhaps it was the excellence of the Coleco version that brought up my expectations in a Mattel version. Be warned: The Intellivision game is a major disappointment. The graphics consist of a Star Strike-like scrolling landscape. Occasionally, walls pop up and scroll across the screen. Sometimes other objects (very boxy graphics, and hard to distinguish one from the other) scroll across the screen—sometimes they even shoot at you.

Zaxxon looks and sounds like most other Intellivision space games. You might also have expected it to be Mattel designed game. (In all fairness, if you play the game a lot, you may come to appreciate the difficulties that you may run into.) On the whole, however, the In-



tellivision lacks the very qualities which made it an arcade/ColecoVision/Atari computer hit. Unless you absolutely must have a Mattel version of Zaxxon, our advice would be to a) steer clear of this cartridge, or b) play it at a store before you buy it. —*M.B.*

Q*BERT

(Parker Brothers/Intellivision)

To date, Parker Brothers has five different versions of **Q*Bert**—for the Atari VCS, Atari 5200, Atari computers, Intellivision and ColecoVision. In the event that you aren't familiar with Q*Bert (where have you been?), the game has been compared in some ways to Pac-Man. And with some good reason.

First, the idea is simple: You bounce Q*Bert up and down a pyramid made up of cubes. Each cube he lands on in turn changes color. When the cube is recolored a uniform color (this may take either one or two hops onto the cube), you progress to the next screen. While you are hopping around, you must avoid certain unfriendly critters. Second, like Pac-Man, Q*Bert is cute. Finally, although the concept is simple, it isn't easily mastered. All of these add to a successful game.

The Intellivision version seems to be the worst of the five versions. The tiny disk controls the movement of Q*Bert, but often in an unpredictable manner. The structure is tall and narrow, looking a little like the traditional Q*Bert playfield. After repeated play, you get the

feel of the controllers, and a sense of the rhythm of the game, but it's a far cry from the arcade game.

If you *must* have Q*Bert and the only system you've got is an Intellivision, this licensed game is probably your only hope. Get it, practice it, and you may be somewhat satisfied. —*M.B.*

Almost everyone has heard about **Q*Bert**, that cute kiwi creature capable of capriciously changing cubic colors.

Though there are some exceptions, many Intellivision owners are under the hose-nose's powerful spell. Parker Brothers' release for that system is a sure cure for any after hours cravings these gamers may suffer from.

The musical score is good, albeit short; while Q*Bert's cartoon captioned curses sound more like a drowning man.

All nine levels of difficulty and the excellent arcade play mechanics are strongly represented, but the bottom seven cubes and Wrongway have stayed behind. Slick is dastardly as ever, and Coily is just as much a sucker for the old disc dodge. Ugg, the red and green balls round out the cast.

The nasties' movements are still difficult to anticipate, luckily the disc controllers are ideal for the tricky diagonal hops necessary for survival.

The colors are bright and clear, the discs and the old "Q" himself are nicely animated. The upper levels present a good challenge and an even better visual treat.

Though not a knockout arcade translation, the graphics and playability have remained fundamentally unchanged. That good news certainly minimizes any other drawbacks and provides this cart with an unlimited supply of frenetic fun. —*T.S.*

MR. DO!

(Coleco/2600)

He did it in the arcades and now, if Coleco has their way, he's gonna do it in your home in this adaptation for the Atari 2600 game system.

And what exactly does the clown-shaped Mr. Do do? With your help, he harvests cherries while avoiding the attacks of the suitably named Badguys. You reap the goodies by using your joystick to maneuver Mr. Do up, down, left, and right through the cherry orchard.

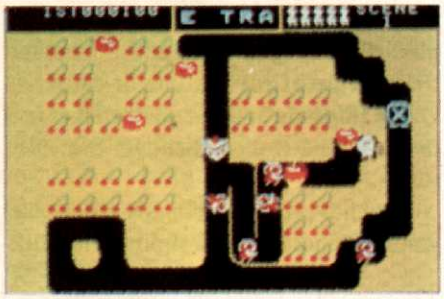
As he picks the fruit he also creates a path through the orchard, Dig Dug style, that the Badguys can use to track him down. Badguys are restricted to the paths, but occasionally one or two of them will turn into big-mouthed Blue Chompers that have free reign to wander where they will and eat whatever they like, including cherries as well as Mr. Do, of course.

Mr. Do has several ways of avoiding extermination. Located randomly throughout the orchard are giant, and strangely inedible apples. By clearing a path directly underneath an apple and then veering sharply away, Mr. Do can drop the apple on top of any Badguy that may be following, again not unlike Dig Dug. However, Mr. Do also has the ability to push the apples horizontally until they fall down the next vertical path. This is especially handy for eliminating any Badguys that may be travelling up or down the central pathway that tends to be present at the start of each screen.

If a Badguy is on Mr. Do's tail and there are no apples nearby, you can resort to the Power Ball. This ball is thrown in the direction that Mr. Do is moving by pressing the action button. It is best used in close proximity to the Badguy (but not too close, since, if a Badguy is right behind Mr. Do, there's not enough time to make a U-turn and throw the ball). At greater distances, the

ball tends to bounce randomly down the path, normally taking a turn that leads it away from your intended target.

After Mr. Do has felled a Badguy with a Power Ball, or after the Power Ball has disappeared, bouncing aimlessly throughout the maze, Mr. Do is prevent-



ed from throwing another ball until it is returned to his hands. The amount of time it takes for a ball to be returned is random, although it seems to be affected by how much time the ball was travelling through the playfield.

Occasionally, at one thousand point levels, a Badguy will appear with one of the letters of the world "EXTRA" on its chest. If Mr. Do can destroy enough "Alphamonsters" to spell out EXTRA at the top of the screen, the round is ended and a bonus life is awarded. Rounds also end if you can clear out all the cherries or eliminate all the monsters for that screen.

Monsters appear two at a time. Eliminating one causes another to materialize at the center of the screen until the allotment for that particular board is used up. Successive rounds increase the number of cherries to be picked and improve the Badguys speed and intelligence. The player can select from four skill levels, the variable factor in each level being the Badguys' abilities to track Mr. Do down.

Coleco has cut many corners in adapting this one player translation from the Universal arcade game. Missing are the myriad enemies that crowd the screen of the original as well as the bonus object that brings on a parade of Blue Chompers when Mr. Do runs over it. Blue Chompers cannot eat apples, which was one of the nicer pieces of animation in the original. Graphics and sound have, by necessity, been reduced to the level where the unpaved areas are represented by a series of horizontal lines. In addition, little of the original's music tracks remains.

There is, however, a reasonable attempt to keep what's left of the game challenging. The Badguys are no slouches at chasing Mr. Do. The arrangements of pathways, cherries and apples vary enough from board to board to keep one developing new strategies as the game progresses. Unfortunately, whatever is good about this adaptation is very effectively undone by its horrendous joystick control. As in all digging games. Mr. Do, while seeming to have free run of the board, is actually restricted to the pathways of an invisible matrix. In the arcade game the matrix contains many pathways, allowing Mr. Do to change direction with relative ease. In the Coleco version, however, the pathways are fewer. This means that if Mr. Do wants to change from, say, a horizontal path to a vertical one, he must cover a greater distance in order to reach an intersection. When a Badguy is on your tail, that distance can be the difference between life and death.

Compounding the problem is the fact that, if Mr. Do clears out two parallel paths one right next to the other, there is no thin dividing wall between the two paths as there is in the arcade game. This means that, in the later stages of each round, the board will be filled with many wide open spaces that provide Mr. Do with little protection from an ambush by the Badguys. The game becomes less a maze game and more a sort of Berzerk where your hero is hampered by the erratic motion and slow return rate of his weapon.

Mr. Do! is hardly the hack job that the 2600 adaptation of Donkey Kong Junior is, but the combination of all its drawbacks makes it more a frustrating than enjoyable experience. Seasoned gamers may find its restrictions challenging, but beginning players, as well as anyone who harbors an affection for the arcade game upon which it is based, had better stay away.

—D.P.

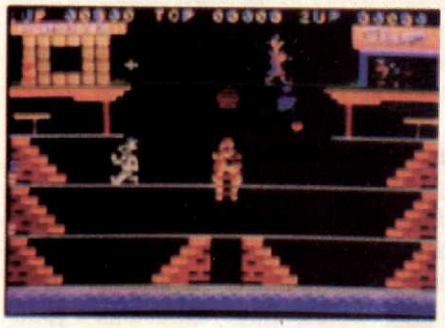
POPEYE

(Parker Brothers/ColecoVision)

Maybe I'm a bit biased. When **Popeye** first hit the arcades, I was enchanted by the high-quality graphics—the almost cartoon-like quality of the characters on the screen. I never played the game enough to get beyond the first screen, because I'm not a chronic quarter dropper, and because the play didn't seem to be that great.

I must admit, however, that as soon as I put the Parker Brothers version into my ColecoVision, the love affair bloomed anew. This version captures much of the magic of the arcade game. The characters aren't drawn with as much resolution, but they are easily distinguished from each other.

The object is to walk/jump/fall through a series of structures (the first screen is some kind of building, with Popeye and Olive's houses on either side of the screen, the second screen is a different structure, with a teeter totter for returning to the top of the screen and assorted ladders, and the third screen is aboard a ship), catching objects dropping from the top. The objects appear to be dropped by Popeye's mother—in the first screen you catch hearts, in the second screen it is musical notes, and in the last screen it is the letters to the word "help."



As you work your way around the structure, you are pursued by Bluto, whose contact is fatal, and who can reach up or down one level and knock you down to one less Popeye and can also throw bottles, which you must punch at exactly the right time. Occasionally, the Sea Hag makes her appearance on the side of the screen (or both sides at once) and heaves bottles your way. In the final screen you are also pursued by black birds. Again, you must either punch them or get to a different level in the structure in a hurry.

If a token falls in the water, you have a limited amount of time to recover it before you lose another Popeye. The points for each token increase the further down the structure that you go. The dangers also seem to increase (but not always). In the first screen is a bucket which you can drop down onto Bluto if he is in the middle of the screen; doing this disables him for a short while.

Another slight advantage comes from the spinach. If you want to take the spinach, you must walk to the can located at the side of the screen, and punch it. This plays Popeye's theme and gives Bluto a head start in his escape. Touching Bluto during this period knocks him into the water and earns valuable points, but usually takes strategy, practice or both.

Popeye is a game for one or two players, with three levels of difficulty. It is a good game. However, there are some weaknesses. First, Bluto is pretty dumb. You can walk right in front of him and many times he won't see you (it becomes hard to take him seriously much of the time). Second, Parker Brothers made a slight error when they designed the Sea Hag. She looks fine, but when she appears on the edge of the screen, the areas which should be transparent (allowing the structure to show up through holes in her pattern) are black, giving the appearance of a black box with Sea Hag painted and being super-imposed over the game screen. The game would have been more challenging if her entry wasn't so obvious.

On the whole, the limitations are small. During game play, you also get a glimpse of Olive Oyl, Wimpy and Swee' Pea. And the good game play, sound and graphics make this a very good game for addicted arcade players, as well as entire families. Popeye should be a good addition to anyone's ColecoVision/Adam game library.

—M.B.

STAR TREK
(Sega/5200)

This **Star Trek** cart is different from the arcade version as there is no attempt made to emulate the vector graphics. What we have instead is a three section split screen showing gauges, a radar scanner, and a viewer; all done in the more common home graphics mode.

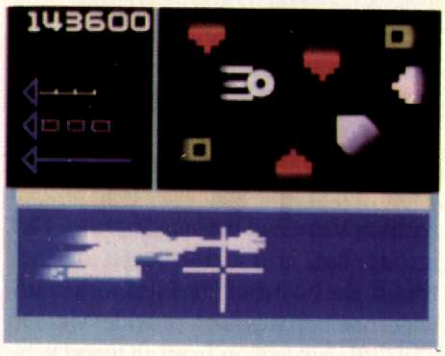
The gauges display Strategy Training Units (score) number of shields and photon torpedoes available, and quantity of warp drive remaining. The radar scanner shows an overhead view of the Enterprise, sector star bases, and Klingons. It also depicts asteroids and meteors in the proper rounds, as well as a very useful display of the ultimate battle against NOMAD.

The lower half of the screen is reserved for the viewer which shows the action as seen from the bridge. Though it is supposed to offer a 3-D simulation, it doesn't. However, the objects seen from the bridge are a great graphics feast for the eyes as this section makes up for any losses of detail in the radar graphics section.

Fighting against increasing odds, the player guides NCC-1701 through 10 sectors (read skill levels) of six rounds each. These are composed of four Klingon rounds, one asteroid or meteor round and, the finale battling it out against NOMAD.

Navigation is a bit tricky at first because of the unconventional direction/thrusting arrangement set up with the stick. Novice officers will spend most of the time weaving like a sidewinder through space!

Phasers are used to destroy any one



target at a time; whereas photons will do a wholesale slaughter on just about everything in their path. Since Murphy's Law had to show up somewhere, the one exception is NOMAD itself. Would-be captains have to display judicious use of the limited supply of photons and warp drive units, but can keep an itchy trigger finger on the phaser button for continuous fire.

Docking with the star bases restores weapons and defenses but decreases their point value at the end of a round. Some planning is therefore required to strike the proper balance between points and power. The meteor shower field is a good time to dock since there are no Klingons around. (They're no fools!) Trainees also have to keep a wary eye out for an anti-matter saucer that drains the Enterprise of all its warp drive energy, which makes the ship invulnerable when engaged.

While the graphics are above average and the sound is about par for the course, the action becomes unrelenting! Building up quite nicely to ever challenging levels, this training mission quickly becomes an enjoyable outing instead of a grueling task.

Once the navigation and basic docking plans are worked out, trainees will rapidly earn high scores and advance handily. Since there are so many factors involved for successful completion of a mission, the game cannot be bested through use of any routines or patterns. Quick thinking and quicker reflexes are needed to advance through Starfleet ranks.

Sega has provided a highly enjoyable gaming rendition of a modern legend.

—T.S,

STAR TREK: STRATEGIC OPERATIONS
(Atari/2600)

Star Trek lives! Indeed, it never died. It has been kept alive through syndicated reruns, nationwide conventions, and feature films. Sega has also done its part to support the spirit of one of the most successful science fiction series in history with the **Star Trek Strategic Operations Simulator** coin-op. Now they have come up with a translation of that immensely successful arcade game for the Atari 2600.

Although this game purports to be a training simulator for prospective captains of the USS Enterprise, fledgling Starfleet cadets need not worry. This is not a recreation of the no-win Kobayashi Maru scenario that Lieutenant Saavik undergoes at the beginning of *Wrath of Khan*. Instead, this game poses a slightly more manageable scenario: Protecting Federation Starbases from destruction at the hands of the bloodthirsty Klingons.

The screen is divided into three sections. Stretching across the bottom half of the screen is your main viewer, which gives you a first-person visualization of space similar to the bridge's main viewscreen. At the upper right is a long-range scanner that provides an overhead view of the entire battlefield. The Enterprise is in the center of this scanner and the various attackers, obstacles and bases move around it. At the upper left is your score and three gauges that indicate the status of your deflector shields, photon torpedoes and warp engines.

Instead of the 360° paddle and four action buttons of the arcade game, Sega

has lifted all of the Enterprise's functions into one joystick, a la Asteroids. Right and left on the stick rotates the ship clockwise and counter-clockwise, forward activates your impulse engines. The action button fires the ship's phasers, which are used to destroy one ship at a time, while pulling back on the stick deploys your photon torpedoes, smart bomb-like devices that destroy any and all targets directly in front of the Enterprise. Holding the fire button down while pulling the stick back engages your warp drive, helpful in pursuing a swift foe or outrunning a persistent enemy (but would Captain Kirk *ever* have retreated?).

And enemies there are, starting out with those most ruthless of villains, the Klingons. Each of Star Trek's ten "sectors" is divided into six rounds, and four of those rounds will be Klingon Encounters. During a Klingon encounter, it is your job to prevent the destruction of the lone starbase, shown as a square on the scanner, while ridding the battlefield of all Klingons. Red, rectangular Klingons are oblivious to the presence of the Enterprise, and spend their time firing upon the starbase. Wedge-shaped purple Klingons attempt to destroy the Enterprise with their torpedoes.

After the starbase has been destroyed (and it takes a *lot* of Klingon shots to destroy it), the red and several of the purple Klingons will turn into white Klingons that try to ram your ship. In addition to the Klingons, you also have to keep an eye on an Anti-Matter Saucer, a yellow blip that mirrors your ship's movements and can suck you dry of all warp energy if it collides with you.

The third round of each sector is either an asteroid field or a meteor shower. With your impulse engines locked on and your phasers and photons deactivated, you must wind your way through fields of space debris in order to dock with as many starbases as possible within the limited amount of time you are given. The differences between asteroid and meteors are slight. Asteroids appear to be "stationary," i.e. they always more in the direction opposite of the one your ship is facing. Meteors, on the other hand, always seem to drift in one direction, making attempts to negotiate them, while staying on course for a starbase, very difficult.

The sixth round of each sector is, as the instructions put it, the NOMAD! round. In this round you must destroy NOMAD, a sentient robot that continually lays mines and fires missiles while moving in a swift, unpredictable pattern. If you are able to nail this deadly satellite, you are awarded with a rainbow of colors and a bit of the old Star Trek theme. You are then warped into the next, more difficult, sector.

Collision with anything, whether it be missiles, asteroids, ships, etcetera, will cost you one unit of your ship's supplies. First, your allotment of shields will be depleted one-by-one, followed by your store of photon torpedoes and then your units of warp energy. After all warp power is lost, the next hit will destroy the Enterprise and end the game.

The only way to replenish supplies is to dock with a starbase. This will replenish one unit each of shields,

photons and warp power to a maximum of three units of warp power and an unlimited amount of units for the other two supplies. With the exception of the asteroid and meteor rounds, where there's time enough to dock with up to four starbases, you can dock with a starbase only once per round. After docking, the base turns from yellow to blue to indicate that its supplies have been diminished.

Bonus points are awarded during the Klingon encounter rounds if you do not dock with a starbase but, with the Klingons particularly aggressive in later rounds, it's to your advantage to dock with bases as often as possible during the beginning of the game, in order to build up supplies. The meteor and asteroid waves are a definite boon in this respect, and a player should cultivate the ability to maneuver through the fields of space debris without harm, in order to reap the most benefit from the multiple dockings permitted during this round.

This translation of the arcade game is impressively faithful. Not only are all the rounds of the original here, but Sega has even expanded on them by adding the asteroid and meteorite rounds. Graphics, while not approaching the needle-sharp imagery of the original's vector scan system, are well done, with the view displayed on the first-person screen being especially colorful and detailed. Sega includes a template printed with all of the control options. This snaps onto a standard Atari joystick, but spending your time staring at a stick is not what I call playing the game. You're better off memorizing the fuctions. They're not that hard to learn.

Game play is fast and involving, particularly in later sectors where the rounds teem with cunning, aggressive Klingons and NOMAD is particularly unpredictable. With your attention divided between the three displays, one really feels like Captain Kirk, plotting his strategy in the heat of battle while being fed information from Spock on the enemy's movements and from Scotty on the status of the ship's systems.

However, those of you who are expecting a Star Raiders-style contest be forwarned, the images displayed on the first-person viewscreen, while pretty, are not very functional. You'll find yourself spending most of the time with your eyes pinned to the long-range scanner, where the most valuable information is. The viewscreen will be used, at most, to check whether your phasers are locked on target. There's also no real feeling of space in this game. Press the joystick forward and you move, release and you stop. There's no attempt to simulate momentum, which may be all to the better considering the number of foes you have to face.

Die-hard trekkers may object to the non-stop action of Star Trek. Surely, Captain Kirk would think of some other way of ending hostilities without having to blast each and every Klingon out of the sky (the Corbomite maneuver is always worth a stab).

Nevertheless, Sega has managed a reasonably accurate simulation of combat as it must look from the bridge of the Enterprise. Short of signing up with Starfleet (a little hard to do at this date), Star Trek: Strategic Operations Simulator is about the best way there is to walk in James Kirk's shoes.

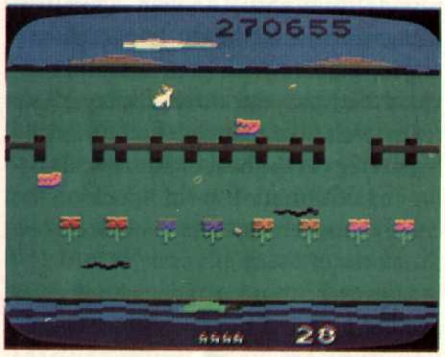
—D.P.

RABBIT TRANSIT

(Starpath/2600)

I can just imagine it: Somewhere, a group of Starpath designers sit around brainstorming new game concepts for their Supercharger expansion module. "How about rabbit?" suggests one designer. "Sounds good," says another, "what sort of things do rabbits do?" "Well..." says a third, "they hop around and make more rabbits." GREAT!" says the Head of Game Development, "How soon can you write it up?"

Thus is born Rabbit Transit, Starpath's new game for the Atari 2600. The goal of this one or two-player game is to



hop your rabbit through two different screens in order to get him (her?) to the "Bunny Bushes" from whence happy families are created. In the first screen, "The Mysterious Meadow," you must hop your rabbit from the top of the screen down to a rendezvous with a friendly turtle waiting at the river's edge on the bottom, while avoiding contact with slithering snakes, unpredictable bouncing balls, and snapjaw-like choppers, all of which travel horizontal paths across the screen and can cost you one of your five lives should you collide with them.

Picket fences force you to guide your rabbit through narrow gates, and an erratically fluttering butterfly can send you back to the top of the screen if you should collide with it. To further complicate matters, your bunny only moves in diagonals. To maneuver him, you must hold your joystick Q*bert style: Fire button pointing directly at the screen so that the normal up,down, left and right axes now represent diagonal movements.

Land on the turtle's back and the scene switches to the "Land of Ledges." Here you must hop from ledge to ledge, changing their colors to a "Magic Color" displayed in a square at the top of the screen. Keeping you company is a spoilsport human at the top who continually tracks you down and tries to drop rocks on you.

That wouldn't be so bad, since even when you're closest to him it's quite easy to avoid the stony missiles. The problem is that, starting with the third difficulty level, every rock dropped reverses the colors of the ledges that it passes over, forcing you to repeatedly backtrack in order to undo the damage. Getting konked on the noggin, or accidentally leaping off the bottom ledges into the river, loses you a life.

Changing all the ledges to the magic color before the time limit runs out awards you bonus points based on the amount of time left, and gives you an intermission where your rabbit gets a romp in the bunny bushes. I don't think I have to tell you what goes on there, but don't get your hopes up. All the good stuff goes on off-screen, with only the very tangible results being visible afterwards. After you have done your part for the lapin baby boom, the game recommences at the next highest difficulty level.

Levels are distinguished by the variety of creatures on the meadow screen and the speed with which the human drops the rocks during the ledge screen. A flip of the difficulty switches determines the speed of your enemies, as well as whether the turtle is always present on-screen or occasionally takes dives that can leave your rabbit stranded on shore. A bonus life is awarded at 10,000 points.

Starpath hasn't quite gotten over their prediliction for derivative games. Frogger serves as the basis for the meadow screen (a little confusing, because Starpath has already licensed Frogger itself from Sierra On-Line), while the ledges are an obvious variation on Q*bert, all the way down to the human emitting a frustrated "?#!" when you complete the board. As for game play, experienced players may quickly lose patience with this game, since the first few levels are laughably easy, even when the more difficult game is selected. Things pick up once the human is given the ability to reverse the ledge colors. Even then, since the human always aims his rocks so that they might knock the rabbit out, strategies can be developed that remove most of the difficulties from the round.

But if the game is simple, it is also superbly done. Graphics and sound are up to Starpath's consistently fine standards. Joystick control, in spite of the unorthodox positioning of the stick, is very responsive, making this the most easily controlled of all the "cube hopping" games available for the 2600. And the Bunny Bush sequence, while not an active part of the game, is a nice touch of wicked humor (but not so wicked that younger children will be able to tell what's really going on).

A seasoned gamer may find Rabbit Transit too simple to merit much attention. For younger players, however, the engaging visuals and easily learned game play, that still manages to stay challenging from screen-to-screen, makes this an attractive and entertaining contest. I hope that Starpath gets off their carbon-copy kick soon, however, since their original games, such as Escape from the Mindmaster and Dragonstomper, prove that they are capable of producing truly wondrous games that owe nothing to the arcades. In the meantime, Rabbit Transit, though derivative, is a fun, relatively nonviolent game.

—D.P.

VANGUARD

(Atari/5200)

Vanguard—the forefront of the action. Quite an appropriate title for this excellent coin-op translation from Atari.

This version for the 5200 immediately proves its high quality by the "challenge theme" played in the first tunnel, first zone scenario; and subsequently when the gamer's ship earns its aura of

invulnerability by docking with the strategically placed "E" tanks.

Th Stripe and Bleak Zones highlight the nice graphic touches incorporated, but the Last one is the absolute best. The audio-visual treat for defeating the Gond is superbly satisfying.

By depressing the fire buttons simultaneously with direction control changes, the pilot produces a stream of firepower in any of four directions. Proper timing is essential as crashes often occur before the next shot destroys the enemy vessel, which is most often on a collision heading.

Timing is also required in the Stripe Zone to avoid the retracting and reciprocating barriers. In the Bleak Zone, more points are garnered by docking with the worms a maximum of three times. The Rainbow Zone adds the only humorous touch to this otherwise deadly serious adventure. The calliope-like music theme and the enemy's antics have a strong amusement park flavor to them. However, distracted gamers should not spend time looking for any cotton candy.

Curiosity about what lies beyond being one of the most compelling reasons for continually playing this game (wholesale destruction is the other), the option exists to eternally renew the original fleet of five vessels. If exercised, this option reduces scoring to zero, so players essentially start over again at a point further along in the mission. Due to this, points can become irrelevant while mass destruction becomes the raison d'etre.

After all is said and done, this fine example of a purely entertaining diversion will provide many hours of enjoyment to gamers interested in these types of contests.

—T.S.

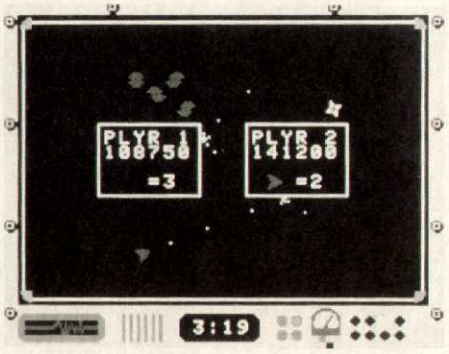
OMEGA RACE

(Coleco/ColecoVision)

The Omegans are attacking again! Not only have they struck numerous arcades with one of the few Bally/Midway vector games, but they have attacked thousands of VIC-20's as well. The fiendish Omegans of the future are launching their fiercest assault yet, however, now that CBS and Coleco will be releasing **Omega Race** in the three largest formats of home cartridges: Atari 2600, Intellivision and ColecoVision.

The bad news about the home version of Omega Race for the ColecoVision format is that even ColecoVision cannot capture the original vector look of Omega Race. Fans of the original Omega Race will also miss the piercing stereo sound that made the player feel as if he were in the middle of a war zone. But, and this is a big but, this game cartridge has enough extras thrown in to make it a good game in its own right.

The premise is simple enough. Maneuver a space ship using rotate and thrust controls through space. The goal: Wipe out the Omegan Race before they wipe you out. Not terribly original, but it gets better. The ship bounces off the edges of the screen and the barriers in the middle, as if it were a cosmic rubberball. If it takes too long to wipe out the "droid ships", the droids will get impatient and begin laying mines like crazy. The concept of the game is very simple, but because of the strategic uses of the bouncing walls, the aggressiveness of the enemy, and the very real possibility of losing control of the ship by hitting a wall or barrier wrong, the player has to concentrate as much on flying the ship as he has to on shooting the bad guys.



What does this game add to ColecoVision? If Coleco hadn't been careful, they might have wound up with another Space Fury (another vector space game); but perhaps because of the pressure for more variety in its games, Coleco has made some changes that will add to the enjoyability and sustained interest of newer cartridges. For starters, the sacred "eight option" screen has been altered. Not only does Omega Race have the traditional four levels of difficulty for one player or for two alternating players, but "Head-to-Head" Omega Race has been added. Play to kill the Omegans, or get extra points for shooting the other player. The many players who dislike two-player games that require waiting for the other guy to die will enjoy this cartridge. In addition to the radical nine option screen Coleco added a second screen with a list of more options! Because the keypad is used to select options, which include changing the shape of the playfield, "fast bounce," and rebounding bullets, the process of choosing a particular option is much easier than the notorious Atari 2600 game select switch, which requires a long wait for those who desire to play the 112th option on Space Invaders. Like all of the new ColecoVision games by Coleco, there is a pause feature built into the game program. Coleco has attempted to do the Atari 5200 one better with its pause control. When it is on, catchy music plays while the screen blanks out to prevent phosphor burn on the tube. The "pause music" on all of the cartridges has been excellent so far; if the pause control is left on for too long, however, the music can get as aggravating as the music in a long game of Carnival.

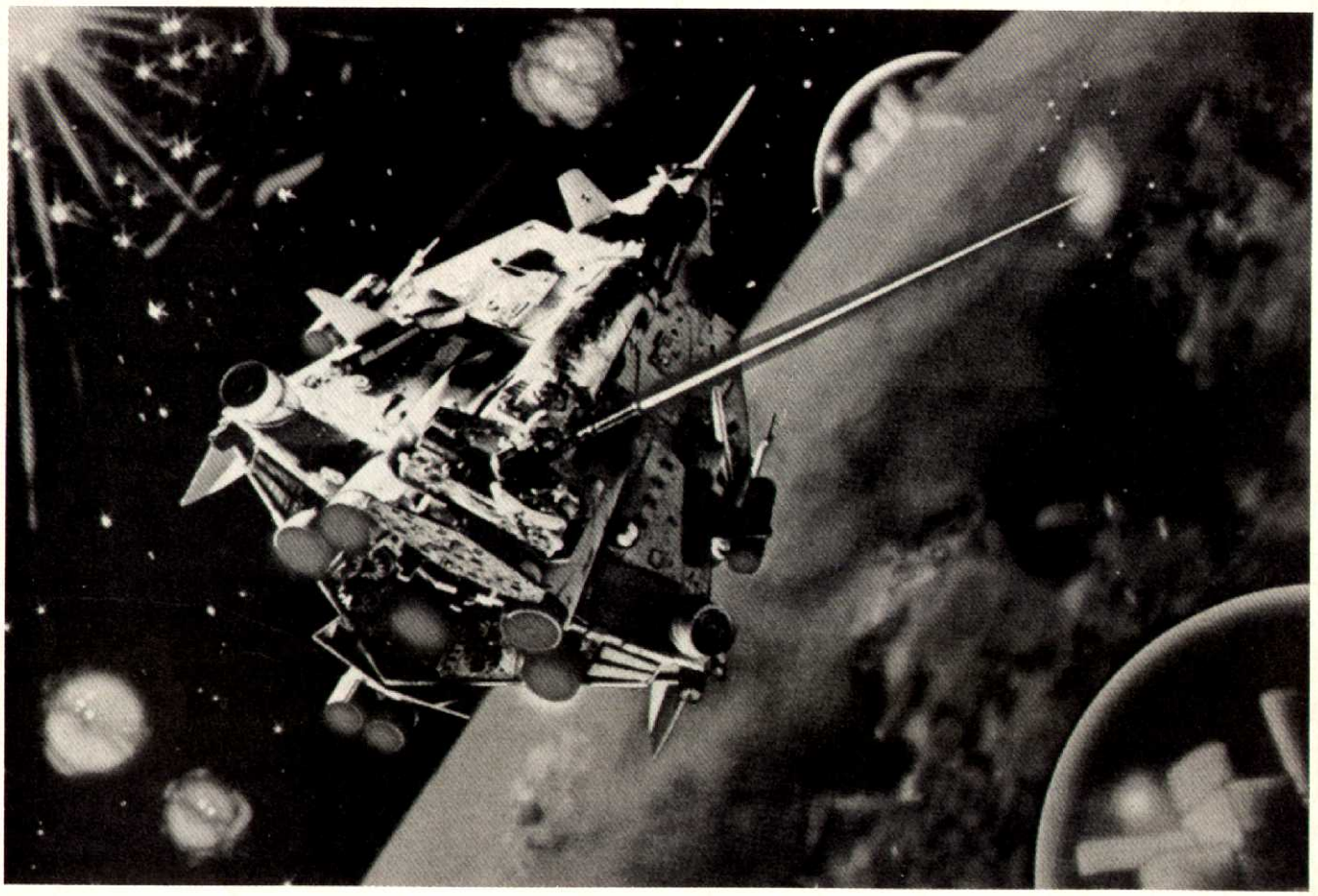
Purists who enjoyed the arcade version of Omega Race may be disappointed. The graphics do not come off as well on the home screen, and the controlling is different. The original coin-op had a paddle controller to control direction. Coleco does not make a Coleco-compatible paddle. They recommend the pricey roller controller for the job. Not only does the roller controller not allow the player to sue the head-to-head option, but Slither is the only game that Coleco makes that was really designed for that type of controller. All of the other games currently recommended for use with the controller are really paddle games. The closest things Coleco makes to a paddle are the Expansion Steering Wheel and the speed roller on the Super Action Controller. Unfortunately, the speed roller does not work with Omega Race. The steering wheel works fine with a "Y-adaptor" but it is difficult to use fire and thrust buttons and steer at the same time.

Coleco has done a very good job on the cartridge. They have made all of the necessary changes to improve the useability of the cartridge except getting rid of the 12 second title screen delay. There is no reason why Coleco cannot change that as well, just as Fox and MicroFun have in their ColecoVision games. Nonetheless, despite non-descript graphics and mediocre controls, Omega Race is a worthy addition to the ColecoVision family.

—M.S.

The Trends And Transformations Of Home Video '84

By Ted Salamone



The industry that skyrocketed to fame and fortune from non-existence a mere decade ago has suffered its first protracted growing pains. Doomsayers were even heard to say that 1983 was the proverbial beginning of the end for the video game "fad." But far from being the end or a fad, video games were going through inevitable growing pains. The result, so far, is that several software houses have bitten the dust, and a few hardware manufacturers are hanging on as if they'll never get another replay.

In actuality, however, this shakeup which is still underway is just a healthy sign of a good capitalist economy reacting to the laws of supply and demand. At one time there was such a paucity of games for home and arcade use that any release was profitable. Consequently, the game players everywhere wound up with a glut of poor to mediocre games and only a very few good to excellent efforts.

In the beginning of the home boom firms such as Activision and Imagic showed the world, especially Atari and Mattel, just what could be achieved. With the stakes raised, however, every company had to up the ante just to stay in the running. Those that couldn't (Apollo, U.S. Games, and Data Age) simply went under. Their remains can be seen at any video discount counter in the land.

The survivors needed ever quicker reaction times coupled with better foresight. To become lean and mean for the upcoming corporate battles and brawls, discounting became prevalent. For the most part the newer products show a higher level of commitment to quality and excellence than ever before. Once consumers became more selective, the producers had no choice but to create better offerings, or die trying.

As the original independent software house, Activision shook up the marketplace with its originality, creativity, and aggressiveness. Without relying on licensed titles, they have done more than anyone else to expand the horizons of the venerable 2600. Their senior designers created a style that identifies Activision products as surely as certain methods of painting identify such greats as Picasso and Rembrandt.

Early use of trapezoidal configurations awed the gaming public with realistic three dimensional effects. Combinations of eye pleasing hues on a fully painted "canvas" eliminated the open backgrounds so prevalent on other carts. The total effect wasn't lost on players who gravitated to these creations. In fact, this style has been refined over the years to the point where anything less than a superior effort from Activision seems much worse than it really is.

Imagic, on the other hand, accom-

plished for Intellivision what Activision did for the 2600. Since the system's strength was always in its ability to produce excellent background visuals, Imagic was able to evolve the "full canvas" treatment to even greater heights. They even overcome the lack of real time movement which plagued on-screen figures and proved themselves very adept at dressing up older themes with the action and graphic variations needed to provide some very enjoyable games such as Nova Blast and Solar Storm.

Not being content with mere translations, Imagic led the way in adapting games to multiple formats capable of utilizing the unique qualities inherent in each system. The best example of this might well be the excellent second screen in the Intellivision version of Demon Attack.

Parker Brothers entered onto the scene in what might be considered the second wave and made a name for itself by snapping up as many licensed titles as they could. This long time toy game stalwart then pumped out titles in multiple formats to appeal to the widest range of potential consumers. Admittedly, the actual games released have met with mixed financial and critical success because they're uneven in quality. Some, such as Spiderman didn't appear to impress anyone; while Q*Bert has become almost everyone's darling.

Meanwhile, CBS Electronics seems to have watched carefully from the sidelines, for it is now producing a good mix of licensed and original titles in various formats. One last entrant, Sega, had made some rather poor, initial entries into the home market, but now appears to have learned from their mistakes because their next volley (including Congo Bongo) looks very promising.

For the near future, we can expect to see the remaining solvent game producers expand their efforts to translate good titles into multiple formats. The emphasis will most definitely be on the burgeoning home computer market, although the dedicated game machines will not be neglected. Since there are still more home game systems around than their keyboard counterparts, companies will find it difficult, if not impossible, to pass up the opportunity to ply their wares to such a large installed customer base.

THE HARDWARE STORY

On the hardware side of the coin there are several systems which never quite caught on in the early days of home video. The one that can still be seen in such places as Toys "R" Us is the 28K Arcadia 2001 by Emerson. Selling for less than the full price of most newly released carts, it remains a curious mixture of innovation and oddity. The hand controllers are 90 percent Intellivision clones with provisions for a small screw-in joystick very similar to the approach adopted by Spectravideo on their SV-318 home computer.

Advanced features such as a power indicator light, compact size and styling, earned it high grades from the beginning. However, Emerson's backing was everything short of adequate. The game library never quite filled the bill, being neither large nor original. Added to this was the unpardonable sin that the games weren't particularly well executed.

In retrospect, with the proper marketing of its compactness and better software support, the Arcadia 2001 could have been touted as the first truly portable system around; much like the Osborne that revolutionized the personal computer industry.

Two other systems which never really captured the public's fancy were the Channel F by Fairchild and the ill-fated Ultravision. The former became a second class ward of Zircon, the replacement joystick manufacturer, and rapidly faded from view. The Big Z has offered a few more titles since the takeover, but most people don't even know this sytem exists.

As for Ultravision, the last I saw or heard anything about it was a copy of their one and only VCS game, Condor Attack. When the saleswoman took it down from the shelf for my perusal, we discovered the box was empty. The

same might be said of the company's grandiose promises of hi-res, hi-fi, and no doubt—hi price; for it was a complete command station also compatible with the 2600. To this day God only knows why 64K was in a system playing 4K.

One last stop in this discussion of hardware highlights was the strange case of Bally a.k.a. Astrovision a.k.a. Astrocade system. Without a doubt the best of the lesser knowns, this system was, and always will be typified by the intense loyalty of the small cult following it developed. Like the Channel F, the product and all rights to it were sold by its creator. However, that's where the similarity ends, for it was a superior product at the time of its introduction.

Combining an 8-way shaft hand controller with cartridge storage space and a calculator keypad, the Astrocade was, indeed, a unique offering. Illustrating Bally's original foresight was their intent to upgrade the machine to true computer status with a full stroke keyboard add-on.

Showing an unmatched resiliency in the marketplace, independent firms have continued to produce BASIC and machine code games, as well as a keyboard for the Astrocade system. Unfortunately, this fine equipment will never overcome its underground status.

Delving further into the land of hardware, there's the Odyssey family. Though an early system, it never seemed to get the support it deserved from its owner, North American Philips. Complete with a keyboard and an optional voice synthesizer, 2 showed some promise but never had a true impact in the marketplace.

Failure to provide an adequte library (size and quality wise) and properly advertise the machine, doomed it to an also-ran status almost from the beginning. There was a 3 scheduled for release, but the plug was pulled on it because of fierce competition and the belief that it would be obsolete before ever hitting the market.

In a turn of events, N.A.P. did produce some nice Odyssey 2 games such as Turtles and P.T. Barnum Acrobats. In addition, there was a brief introduction of the last gasp Probe 2000 Series carts for ColecoVision which never got off the ground after an initial advertising blitz.

On to healthier and more viable systems, there's that enduring enigma—Vectrex. Packaged with its own monitor and a built-in game, this product found its own limited niche in the market. Providing vector graphics in a raster world, G.C.E. developed some nice titles, including arcade adaptations, but never seemed to gain any strength.

Expanding to a full-fledged computer seems to be the goal these days, and Vectrex is no exception. Along the way they have even provided a light pen for artistic work without the fuss of arduous programming, and a musical add-on. In addition, a 3-D imager will provide true dimensional effects when worn like a pair of goggles.

The major failing of the system, however, has always been the monochrome screen. Color overlays are provided to add some oomph, but nothing even comes close to a peacock parade of colors. This may be even more of a problem when the system is upgraded to computer status. Only time will tell for sure.

There is a system which, over the years, had seemingly survived and even grown better with age, as it remains the foundation on which the home video industry has been based. Everything that can possibly be written about the Atari VCS has already been done many times before. The main point to the 2600, however, is its high degree of flexibility. Proof that the low resolution graphics leave something to be desired rests in all the products made to enhance its on-screen RAM. Foremost are the Starpath Supercharger and the RAM Plus chip introduced by CBS Electronics on its Tunnel Runner and Wings carts.

The veritable flood of replacement controllers also highlights the system's other major weakness. From variations on the original stick, to remote control and novelties such as the Amiga Joyboard, nine pin players have more to choose from than they could possibly ever use.

In addition, all manner of companies have produced games for the VCS. Even though several have gone under, new ones continually take their place. One, Xonox, a K-Tel subsidiary, has followed its parent's economy minded footsteps by providing two games per cart for the price of one.

Several firms have computer upgrades ready or available for the 2600, although Atari dropped their Graduate adaptor and planned line of support peripherals. Despite old technology, the VCS has been the true herald of the home video field because its adaptability has ensured it a long life that somehow manages to cover ever increasing technological developments.

Moving to the second generation systems, we uncover Mattel's underrated and much maligned Intellivision series. Sure there were problems in the beginning. The offerings stressed sports and strategy to the exclusion of almost all else. As for the controllers, they weren't detachable; and—horrors!!—no joystick!

The model II solved the plug-in problem; and the library, over time, had ex-

panded to impressive proportions. There were efforts by Imagic and even Mattel itself responded with some nice work, including the masterful Burger-Time.

The voice synthesizer added an excellent touch, and became an integral part of the games requiring it. However, the feeling remains that more could have been done with this attachment. Lastly, a long awaited VCS adaptor finally arrived to give Intellivision owners access to the single largest game library of any system.

The computer adaptor (ECS) and music keyboard, although late additions, further enhanced and utilized the 7K internal memory; its 16 bit microprocessor capabilities; the 192 by 160 pixel resolution; and its 64K game program address space.

A joystick is further down the road, as well as a series of programs known as Gamemaker Software, which will allow users to alter various aspects of some games. Even more independent software support is on the horizon. CBS is planning translations of several games in its current lineup, and Activision has been supporting the model II with original titles. Interphase has produced two initial entries (Blockade Runner and Sewer Sam) which sport tremendous simulated 3-D graphics and excellent play action.

What remains true regarding Intellivision is that the learning curve is much longer than for any other system. For the most part, the games for the system are involved and sometimes complex. Admittedly more thought and attention are required to enjoy certain titles to the fullest. However, this can be seen as a benefit in disguise, since the carts have sustained playability over a considerable time span.

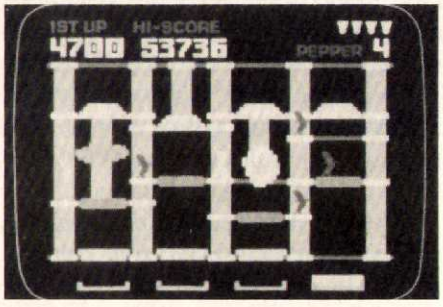
Next in the home video sweepstakes is the first 3rd generation system; that 32K black box known as ColecoVision. Probably the only thing bigger than its initial advertising budget was our country's national debt at the time. Coleco boldly went all out letting everyone who cared to know that the arcade classics were coming home like never before.

Living up to such promises took some doing, but they did it nonetheless. Donkey Kong, which was unbelievably included with the system, and Donkey Kong Jr. remain true masterpieces. So are most of their other coin-op knockoffs, even those of only midly successful runs such as Looping and Frenzy.

In all the licensing excitement, however, Coleco neglected to develop original (read non-arcade) carts at the start. To overcome the potential threat of being a total coin-op clone, games such as Skiing, Dracula and Baseball were developed.

Third party software has also been steadily increasing. Companies such as Parker Brothers, Epyx, Interphase, and Imagic are all in the running; albeit in different stages of the race.

Game selection aside, ColecoVision's controllers are the one dark spot in an otherwise bright picture. (Seems as if none of the system manufacturers can produce a top notch standard controller.) To alleviate the problem there have been numerous replacements and more are still to come!



Coleco struck hard and fast with the 2600 adaptor and the Turbo driving module. Their Super Game Module, however, disappeared under the weight of difficult-to-manufacturer wafer tape drives, and the urgent need to switch all production capabilities to the ADAM. The company did regain some momentum with the introduction of the Roller Controller and Super Action Controllers for use with Slither and Baseball.

We can expect to see continued Coleco support in the form of new games; however ADAM peripherals and software will definitely be a higher priority. Of course, the independent game houses will increase their efforts to fill out the library. Voice synthesis is probably not in the immediate future, but one development that is, is the translation of Dragon's Lair for home play which may well bring disc games into the living room. All in all, the system (with its multitudes of expansion modules and excellent carts) offers game players a nice variety and plenty of enjoyment.

Knocking ColecoVision from its lofty home arcade throne has been the appearance of the Atari 5200. Though double the VCS's number, it has far more than twice the capabilities. Packing a 320 by 256 pixel punch and a whole herd of sprites, it outguns the Coleco system and also displays 256 colors.

The 5200's weak points are its size and poor controllers. The Supersystem is huge by anyone's standards as it literally dominates any table it rests on. Of a more serious nature is the poor design of the joysticks. Besides feeling a bit awkward in small or average sized hands, the stick isn't self-centering.

While reproducing fantastic home versions of the big arcade hits, Atari hasn't neglected other aspects of gaming. The early release of Baseball, Countermeasure, Soccer, and other non coin-op carts shows the depths of Atari's experience in these matters.

Independent firms have also started to fill out the game library. Activision has River Raid and Megamania, while CBS is pushing translations of several of their titles. Different games from these and other firms will continue to follow, especially as more units are purchased. But the 5200 story doesn't stop there.

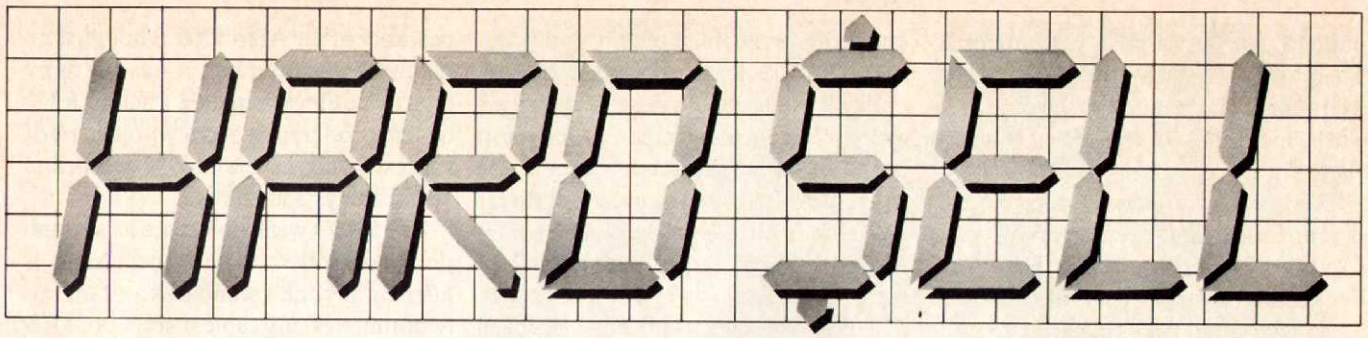
The trakball and VCS adaptor have already proven themselves. A keyboard is rumored, and voice synthesis was in the works. But don't hold your breath waiting since Atari has its hands full producing a new line of computers.

For the Supersystem's future we can look forward to an ever increasing software selection, numerous replacement controllers (possibly from Atari itself), and maybe even a resurrected voice add-on.

Of all the systems covered, only the last four have a shot at any real future when home computers become a more dominant force. As time goes on, these four will evolve along pretty similar lines as far as software and peripherals are concerned. Though there will be a few unique offerings, the competitive pressures of the marketplace will force each company (or independent ones) to produce their own version of anything which proves popular.

Whatever does occur, we're not likely to see the death of dedicated game systems in the near future. The main reason is that the size of the market created by those being used, now assures a steady flow of new products for quite some time to come. ▲

HARD SELL



SOMETHING FOR EVERYONE? An In-Depth Analysis Of The First Coleco ADAMS

By Mark Brownstein

I recently had the opportunity to see a copy of this much heralded computer that had been purchased at a New York retailer. It was not a debugged "review copy," but, rather, what you, I or anyone with seven hundred fifty dollars could purchase. From what I was told by the purchaser of ADAM, he had originally bought *four* units—of those only *one* worked. It was the one that worked which I had a chance to review.

Although I had written glowingly of its potential based on the promises made by Coleco, what I have seen so far is a disappointment. However, a few things should be mentioned in Coleco's favor. First, what I am reviewing is an early production model. Presumably many of the early bugs will be ironed out in later models (although, according to corporate spokesperson, Barbara Wruck, Coleco was slow in getting the unit to market because the company "owed it to the public to develop as good a product as possible").

Second, my review is based on only a few hours use of the computer, and a far from thorough review of its instruction booklets. So, armed with the knowledge that Coleco doesn't often make mistakes, and is usually smart enough to correct them (in this case, by either removing ADAM from the market before it can be irreparably damaged in the public's eye, or by dropping the price, or offering upgraded units to those early ADAM purchasers), I took a look at the ADAM computer.

The ADAM is a modular system. In the full configuration, it consists of a rather large (compared to many dot-matrix models) letter-quality printer, which uses daisy wheel print elements, and what looks like Diablo Hi-type II ribbon cartridges; a data storage device/memory unit, and, nicest of the three, a detachable keyboard.

If you already have a ColecoVision, you get practically the same system, minus some computer chips that are already in your game machine. You also get a plastic plate to connect your ColecoVision to the ADAM. For some reason, although the ColecoVision is made of black plastic, the ADAM components are an off-white. The differences in cabinet color are a minor distraction, but no reason to pay the extra $150 for a "nicer" looking package.

Hooking up the system is relatively simple. The printer has a grounded (three prong) electrical cord which comes with an adaptor for non-grounded houses, and you just plug the cord into your outlet. Then you can plug your memory unit into the printer. If you have a roller controller, you have to plug the controller into the back of the printer in order to play a game.

As for the keyboard, it attaches to the data storage/memory unit by means of a six connector modular phone cord. Conceivably, you can be computing from across the room if you had a long enough replacement cord, so long as the data/memory unit can handle the slightly weakened electrical signal, which normally occurs when using a longer cord.

If you want to play a game, you'll have to turn on your printer before you plug in a cartridge or data tape. If the only thing you're interested in is playing games, this is a minor inconvenience. What can become even more inconvenient, however, is the location of the on-off switch on the back of the printer. With certain types of computer desks, there may be limited room to reach under a shelf and to the back of the unit in order to turn the system on or off.

The keyboard is, by far, the best part of the system. It looks similar to a specialized keyboard used on dedicated word processors, with many special function keys. It also has five "smart" keys at the top of the keyboard, designed to assist in getting certain functions to operate. Additionally, the keyboard resembles in appearance, the IBMpc keyboard. The keys seems to be full sized, with key action that's quite good. In fact, if you plan to use the ADAM as a word processor, or to do considerable keyed inputting, the keyboard seems pretty well suited to most requirements.

However, move beyond these initial features and characteristics and ADAM begins to reveal its inherent weaknesses. At the Summer Consumer Electronic Show last June, Coleco made a big deal of their digital data device, which, they said, would rival the disk in performance. Their data pack was said to be an extremely rapid storage and retrieval device. In actual operation, however, it was a major disappointment.

The data packs looks very much like

standard cassette tapes. They are the same size, and seem to have the same hub locations, but are loaded with high quality data tape and would only work in an ADAM computer. Likewise, the ADAM won't accept standard cassette blanks. But you can't just go to the store for a new cassette blank if you want one. The special blank tapes can only be purchased from Coleco, and at a higher price than a standard blank cassette. The data tape is apparently a two track device—one track for storing data, the other containing locater tones and code for finding and using data and stored files. To load Buck Rogers Planet of Zoom, the sample game which came with ADAM, took *minutes* (it was probably a good three to four minutes, but seemed like eight to ten). You can insert your game tape into the ADAM, turn it on, make a sandwich, go to the bathroom, and get back to the TV set in time for the title screen.

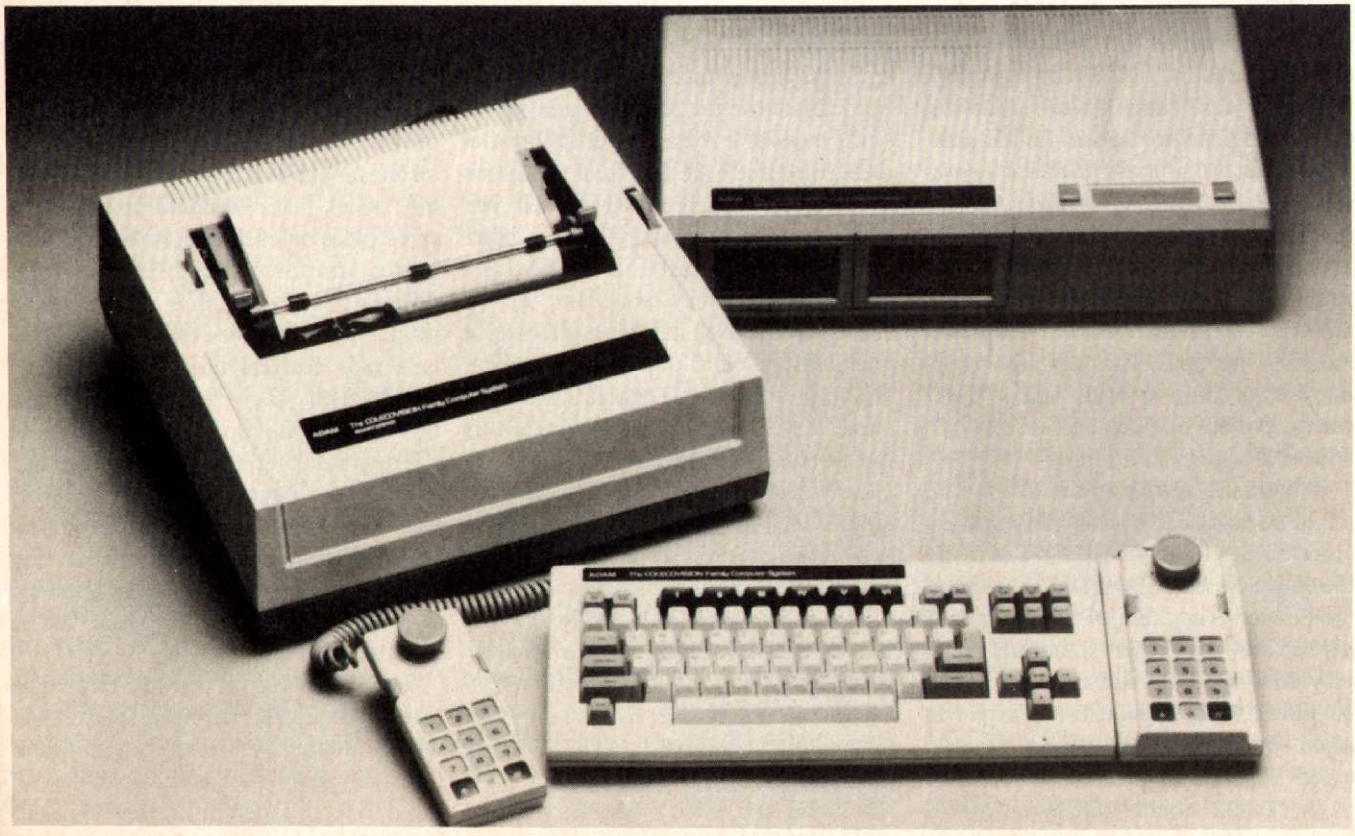
As you play the game, ADAM is loading the next screens from the tape cassette. When the game is finally over, you have to wait for the whole thing to rewind to the high score or game options screens before you can start again. The better players are penalized, because they have to wait for more tape to be rewound before they can start the next game. If you didn't like waiting the fifteen or so seconds for the ColecoVision game to load, you will *absolutely hate* the painfully slow loading and restarting of ADAM supergames on data packs.

If you get frustrated with the wait *don't*, repeat *don't* hit the reset button—you'll end up waiting another five minutes for the whole mess to reload. Additionally, if you get frustrated by it all and know not to hit reset, also remember *not* to remove the tape while it's moving—it could destroy the program on the tape and make the whole game unusuable. Coleco, in all their wisdom, tell how to load the game, how to restart it, but fail to even suggest *how to turn it off or remove it* without messing things up.

I attempted to store and retrieve word processed files, but failed each time, even though I used a new data tape, and followed Coleco's directions. Although the data device falls far short of expectations (or promises from Coleco), there are rumors that the extra, empty slot in the memory module may accommodate a 3½ inch disk drive, somewhere in the future. With the rapid access of a disk drive, the major weakness in data storage and game loading may cease to exist.

In June, when Coleco announced the ADAM will have a *letter quality* printer included in the system for *under $600,* most people, including myself, were shaken up. "That would be less than a printer alone," we argued. "How could they do it for that price?" They did it by redefining the technology. The ADAM printer is a lightweight plastic box that houses some electronic components, the power supply, a typewriter platen (the black round thing that holds the paper), and a print device/ribbon holder. The mechanics of printing in the ADAM computer are somewhat similar to most other daisy wheel printers, but with some important differences.

A daisy wheel looks something like a daisy with 96 petals, each with a different letter or symbol. In order to print a specific character, the wheel spins so that the appropriate letter is in front of a print hammer.The hammer strikes the character, which strikes the ribbon (between the character and the paper), and then the paper, and leaves a typed letter on the paper. In most daisy wheel printers, the daisy spins very rapidly—electronics inside the printer quickly synchronize the print hammer to the moving daisy wheel. In the ADAM, however, the wheel is slowly turned by a small motor. When the proper character is appropriately placed, the hammer does its thing, and a letter is left on the



The ADAM keyboard is the best part of the system and looks more like a specialized keyboard used on dedicated word processors.

paper. It's not as fast and is, at present, an unproven device.

As with other daisy wheel printers, the carriage doesn't move—instead the print device moves from left to right along a horizontal path. In the case of ADAM the print device is moved by some very lightweight appearing cords, connected to a rotating wheel at the bottom of the printer. In heavy use, it is very possible that the cords may either stretch (which will make proper spacing unpredictable) or snap (which would make printing more than one letter on a line impossible). For a minimal investment or so, Coleco could probably have put in a stronger transport cable.

At the top of the printer are slots which will, presumably, accommodate a sheet feeder. Being able to feed continuous paper will be a nice convenience, although the thinness of the plastic may make one wonder just how much weight the feeder can *really* support. If what I've said so far about the printer is nitpicky, here's the final nit—besides being slow, the ADAM printer is *very* noisy. The sound of the keys striking can easily be heard through closed doors, and can be heard at least sixty feet away. It sounds something like knocking your knuckles against the side of a refrigerator.

If Coleco was serious about providing a useful printer, they would have made the cabinet thicker (so that it wouldn't amplify the sound of the print hammer), insulated the cabinet, or somehow developed a quieter device. As it is now, it is by far the noisiest printer I've ever seen (or heard). As I reviewed the machine, I was asked to imagine what an office with ten or those printers would sound like. I answered that you'd need an office full of deaf people to use them. Another person, with perhaps more knowledge than I had, said "don't worry, put anyone behind those things, and he'll be deaf in no time."

If there are people in the house who might be disturbed by this noisy printer, you would probably be best off to avoid the entire system. Slow. Did I say slow? the printer is capable of ten characters per second—by printer standards this is very slow—in typewriter mode, this may be slower than a good touch typist in rapid spurts. In terms of waiting for a typed page to be printed, a complete page of text could take about three minutes to print out. So that ten page term paper you have could take *half an hour* just to print.

The ADAM printer will only print in 10-pitch (10 characters per inch, also known as picas). There are many 10-pitch type styles available from office supply stores. However, most other letter quality printers also offer 12-pitch (12 characters to the inch) printing, and still others can print proportionally and/or up to 15 pitch. Having a choice of type sizes, in addition to type styles, increases the versatility of a printer. Also going to 12 pitch can save a small amount of paper, since you get more text on each line of type.

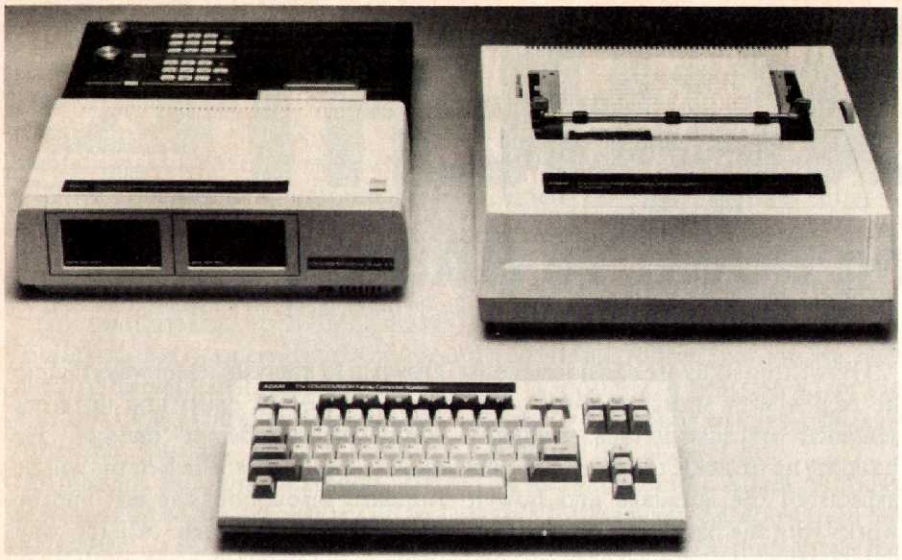
Okay, now that I've looked at how the individual parts work, how does the *system* work? When you turn on the power, or reset the computer, the ADAM first checks for a tape in the drive. If there is one, it takes its sweet time loading it. The tape can be a game, or a programming utility (BASIC, for example). If the load is successful, you can then do what was loaded (programming or game play). If there is no tape in the drive, the automatic default is typewriter/word processor functions. When you power-up, the computer emulates a typewriter—everything you type is typed out as you type it (or after you type it, if you're fast). When you reach the end of a line, the printer stops, forcing you to either decide to hyphenate a word at the end of a line (which will then print on both lines), or make a carriage return (with the word typing onto the bottom of the next line). At the top of the screen is a cursor, which moves to tell you where you are on a particular line. Since the graphics chip used in ADAM and ColecoVision can't generate the 80 character line used in typing, each input line is displayed as two lines on screen, although a selectable screen mode will allow the extra characters to scroll off the screen. The screen selections also allow you to select backgrounds for your input which may be easier for your TV set or monitor to display, or to just change the look of the screen.

If you hit the WP key at the top left side of the keyboard, you go into the word processing mode. Word Processing on the ADAM is elementary, but really pretty easy. The printer no longer rat-a-tat-tats as you type, and all text is stored on the screen. If you make a mistake in typing, you can backspace to erase the error. The word processing program also allows you to insert or delete text, move to specific locations for editing by use of the arrow keys, and even move or copy text. You also can set your own special tabs, single or double spacing, and even superscript or subscripts. You can type an original document, revise it, and save both original and revised versions on tape (once you get these functions to work).

One thing that you *can't* apparently do is *underline*. In many word processing applications, the underline is very useful for titles or added emphasis. It is also difficult, if not impossible, to get the ADAM to double strike (type the same letter twice at the same spot on the paper for extra emphasis). If you ever need emphasis or title pages, forget about making them look different from the rest of the typed text.

Another feature of many word processors, which ADAM apparently lacks, is automatic centering. In many cases, such as titles and section identification, for example, centering is often very important. Without an automatic routine, most typists will go to the center of the page, backspace half the number of characters of a given word, and start typing. With ADAM, this would probably be tremendously difficult. ADAM only has one type of tab—if you want a paragraph indented, you will have to hit the tab key on every line (most word processors have an option to move the tab in only the first line of a paragraph, or on all lines). ADAM doesn't have a decimal tab, which places decimal points at the same place on each line, no matter how many numbers occur before the decimal. If you plan to do long numerical tables, the decimal tab feature is a nice convenience. Also, ADAM won't justify copy (right justification means the lining up of all characters at the right side of the page, so that the edge of the typed page is straight). In short, the look of your finished page will be a lot like what you can get from any typewriter, with the exception of underlines, which don't seem to be possible with the ADAM.

The ADAM does provide some nice print options. For example, the ADAM will automatically number pages for you (this may only be available with continuous feed paper, however). ADAM can be set for page length, so that it will



The ADAM system: Data pack drive, printer and keyboard with controllers.

know when to feed the next page, and where to print the next page number. If you can stand the printer noise, and don't mind the slow access of typed files, the ADAM system might be an acceptable word processor at less than the price of a new Selectric typewriter.

The version of BASIC which is used in the ADAM uses the same codes as Applesoft BASIC. What this means is that if you learn to program in BASIC in one machine, you can immediately program using the keywords on the other machine. An Apple expert can instantly program on ADAM. If you learn on an ADAM, you can upgrade to an Apple and be able to use it right away. What isn't compatible, however, are the peeks and pokes (locations for necessary hardware functions), so transferability from one machine to another does have certain limitations.

Although ADAM uses the same language as Apple, you can't take an Apple program and run it on ADAM. Although the keywords are the same, the machine codes are entirely different (since Apple uses the 6502 processor and ADAM uses a Z-80). ADAM is compatible with CP/M, a language with thousands of application's programs already written for it. However, there have been no CP/M based programs transferred to ADAM data packs, nor has there been a CP/M operating system datapack developed for ADAM. Unless ADAM does particularly well in the marketplace, the availability of any CP/M programs for it would seem very doubtful. So, although ADAM can use CP/M and there are thousands of programs written in CP/M don't buy ADAM expecting to ever be able to use any of this vast program library.

Since Coleco has wisely put BASIC onto a tape, they have left memory free for computing. They have also left the door open to learn other computer languages—Logo and Pascal immediately come to mind. As new languages are developed, ADAM may be able to accept them. From a language standpoint, ADAM has the potential for growth into many new computer languages (and can be a good tutor for learning programming).

Coleco hasn't yet announced what other software and peripherals will be available, but it would be safe to guess that a modem is on its way, which would allow you to call up the AT & T/Coleco game network and download games through your telephone into ADAM. This modem should also allow you to hook up to other computers and information services (THE SOURCE, CompuServe, etc). Another exciting application, possibly making use of an RS-232 or Serial interface, would be an interface with a programmable laserdisc player. This interface will allow you to play a laserdisc version of Dragon's Lair (which Coleco has paid two million dollars for). Although Coleco hasn't admitted that they plan to interface with laserdisc, what's Dragon's Lair without the computer graphics? Adding the necessary equipment to play Dragon's Lair at home could easily become a $500 to $1,000 commitment—laserdisc players are the best video source yet, but you'd better like DL to justify the purchase of the required interfaces.

On the topic of games, ADAM really doesn't seem to add much to game play. I played Buck Rogers Planet of Zoom a number of times. As already stated, it took forever to load. The graphics were typical Coleco graphics. The opening screen is reminiscent of the Intellivision game where you are flying in a deep space trench. The object is to blast the enemy flying at or around you. With the sprite processing limitations of the TI graphics chip, the enemies very often tended to blink quite a bit (more than two characters on the same horizontal line will, and do, blink). Some characters seemed to be transparent much of the time.

Game play was pure Coleco—using the Coleco controllers, I didn't feel like I was playing anything new or exciting. New screens provided additional though limited challenges, but the game, overall really wasn't impressive. What this version offers are numerous screens, although many computer games also offer a wide variety of screens that *don't* blink. Since access to the screens is sequential, the number of screens could, conceivably, be limited only by the length of the data tape. If the only thing you are looking for in a game is a lot of game screens, the ADAM method may have some merit for you. For my money, as a game machine, ADAM falls short of most non-toy computers (even the ATARI 400/800 series or the Commodore 64 would better qualify). Mere numbers of game screens can't compensate for *quality* of game play, and stability of game images.

In summary, ADAM, overall, seems to be something of a mistake. Although the package seems reasonable, based on price alone, there are numerous bugs and weaknesses that need to be ironed out before it can even be considered *close* to a desirable computer system. By trying to provide many things inexpensively, rather than a few well designed, moderately priced components, Coleco seems to have missed just about everybody. In the words on the cover of the word processing instruction manual, ADAM is "a computer system that thinks like you do so you don't have to." And if you don't think before you buy, you just *might* get an ADAM. ▲

BOOK BEAT

Getting Down To BASICs

By Richard Goodwin

When my high school got its first computer back in the '70s, it was a simple teletype connected by phone to a time-sharing system located elsewhere in New York state. At that time, classes weren't held instructing students on the ins and outs of computer technology. The closest one came to any form of instruction was to partake in lunchtime and after-school lessons on the particular system.

I was not one of those people.

Instead, several of my friends were taught the system and its language, BASIC. They, in turn, taught me how to play the games and make the machine print out Snoopy calendars and wall-length pictures of the *U.S.S. Enterprise*. Somewhere along the line, I also learned a little about programming and impressed myself when I retained the information in class, sometime later, when the school finally figured out how to teach us computer math.

From then until now, I never knew how to program a computer. No great loss, considering I have never been called upon to program a system; just use it. But these days I am thinking of finally owning my own machine and I may need to know how to program it—just in case I want to make up my own games or learn how to balance my checkbook.

Fortunately, I have found a wonderful book on the subject that was fun to look at, easy to read and took me by the hand from page one onward. *Your First BASIC Program* by Rodnay Zaks (Sybek, Inc. 189 pages, $12.95) took me less than two days to get through and made me quite eager to get my hands on a machine.

Let me explain: Many of the books lining the shelves in computer sections are dry, boring technical manuals that don't remind you that your home computer can be a fun and valuable addition to your life. Zaks remembered.

His writing skills are considerable as he begins with short, easy-to-follow sentences and instructions, gradually building up to tackle the more complex aspects of the language and how it works with the hardware. By the end, you feel that you have grown with him.

And yet, the book is profusely illustrated with graphs, facsimile screens and clear programs. He also has a cast of recurring characters that are visual cues to the subject at hand. The characters include Dino, a dinosaur that shows how easy it is to follow the instructions; a walking computer; a superheroic BASIC Interpreter; the Program Snake and, of course, the Foul Bug.

Zaks starts with the simple background on where BASIC came from, how it has developed and how it has grown in so many different ways that no standard BASIC exists and different computers use different "dialects." He quickly establishes which terms will be standard throughout the text and he never misses the mark. All the way through, he shows us where variations may occur and how to cope when confronted with them.

Since the volume is primarily a textbook, it contains exercises at the end of each chapter, with answers at the back of the book. There are also summaries at the beginning of each chapter and capsule reviews at the end.

Zaks begins with such simple matters as using the keyboard and how the computer works. Then he takes us along on a trip through mathematics, showing us how to make the machine do basic functions like multiplication.

The book's strengths are in its step-by-step approach to building a program, including attention to algorithims, flow charts and documentation. Flow charts were something that mystified me for so long and now they make perfect sense, particularly the way Zak presents the matter in chapter nine.

The one drawback to the book that I found was that it concentrates a bit too much on its mathematical functions and does not show us how to use the system for games, puzzles, artwork or other fun matters. But, it is a textbook, first and foremost so this deficiency is understandable.

If you buy a system, regardless of age, this may be the best periphreal to get at the time of purchase. Unless, of course, you're a computer genius or actually invented the language.

Now, the best way to see if you really learned anything from Zaks' book is to sit down at a terminal and get to work. An easy step in going from textbook to writing your own programs may be to buy a book of programs for your particular system.

One such example is the series of books from Addison-Wesley. They all have different names but the games remain the same. Hal Renko and San Edwards adapted 31 games for four systems, the TI99/4A, the Tandy Color Computer, the Timex/Sinclair 2000 and finally, the Commodore VIC-20.

Cosmic Games for the Commodore VIC-20 by Hal Renko and Sam Edwards (Addison-Wesley, 131 pages, $5.95) promises short BASIC listings and "concise explanations of the games' objectives and rules." Well, just barely.

The book is shoddily printed with faded black ink, poor paper and even poorer illustrations. Photographs look like bad photocopies and line artwork is amateurish, neither enhancing the games under discussion.

"This book aims to provide something for everybody from 6 to 99," the authors write in their all-too-brief introduction. The aim is off the mark, widely. They also try and update Bruegel's "Children at Play" painting with a crude, unimaginative drawing. In trying to be hip they end up being insulting and a touch condescending.

Cosmic Games' biggest failing is in its presentation of the programs themselves. They are printed from dot-matrix outputs that are not all that clear or easy-to-read. As the programs go on for several pages, one's eyesight may be strained or essential lines missed because of the small type. For the price, better game books can be found.

As for the games, they range from interesting to down right bad. Their descriptions are brief, not concise, and they do nothing to help you adapt the game for variations or give you programming tips of any kind.

A sample, "Ship's Attack," opens with: "Little squares fall down from the top of the screen. You must move the shapes using the cursor controls and the shift keys to stop the squares hitting it. If that sounds dull what about this... "You are captain of one of the finest spaceships in the universe. As you cruise majestically through the Milky Way you can't help feeling proud of the magnificent vessel under your command. Then just as you are nearing base and the end of your voyage is in sight, disaster strikes—A FLYING SAUCER ATTACK!"

If the game is uninteresting, no amount of hype and hyperbole will make it play better. The authors seem to have missed this point with their games, which can easily fall into standard categories of shoot 'em-ups, mazes, numeric and spelling games. Among the more interesting items are Zombies in the Swamp (an interesting variation on the Pac-Man style; I also like Zombies), Escher (making patterns reminiscent of artist MC Escher), Key (an off-beat numbers game) and Road Race.

The silliest item in the book is I.T.—The Adventure of the Century" using mythical creations to rip-off *E.T.* and go nowhere.

Be warned, however, that several of the games in the book, including the aforementioned "escher," require extra memory, going up to an additional 8K.

There's very little to recommend about this book and much to avoid. Any bookstore will show you oodles of computer books, any number of which pertain to the VIC-20. Browse and find one that better suits your needs.

It shouldn't be too hard. ▲

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COMPUTER CORNER

Fun and Games with Electronic Marvels

By Mark Brownstein and Dan Persons

What's your definition of fun? Is it battling against alien invaders, vaporizing saucers into clouds of space dust? Perhaps it's wandering the labyrinthine corridors of a medieval dungeon, battling dragons and gathering untold wealth. It might even be running a maze, gobbling dots to your heart's content and avoiding pursuing ghosts.

Fun can be all of these things, or none of them. What is definite is that not everybody derives enjoyment from fast paced shoot'em-ups or high-speed chase. There are people who don't need scoreboards or computer-controlled opponents to have a good time. For them fun can be the process involved in solving a complex puzzle or even the act of creating a full-fledged work of art.

Fortunately, home computers, with their detailed graphics and sound capabilities and extensive memory capacities, have the power and flexibility to handle everything from arcade games to software packages that allow you to create your own animated films. And, happily, software vendors are beginning to fulfill the home computer's wide-ranging potential by introducing disk and ROM cart-based software that makes it easier than ever for anyone to explore the unique capabilities of these electronic marvels.

So, while continuing our ongoing quest of the most exciting, challenging and entertaining games around, we at *Video Games* will also begin looking into titles that offer something beyond high scores and 38 difficulty levels. They may be literate, complex adventure games or special programs that allow you to express yourself through your machine. But what will distinguish all of them is that, in their own unique ways, they will be fun. If you're looking for critical evaluations of spreadsheets and word processors, then, sorry, you won't find it here. But if what you want is to know about ways that you can derive more enjoyment from your computer, then you've come to the right place.

—Dan Persons

SPITBALL

(Creative Software/ Commodore 64 Cart)

Spitball is a weird name for a video game and a weird game. The playfield is something like a series of internested boxes, each box having large and small cutouts. Into these boxes you put your players, which look and act in a snakelike manner, except that these snakes are made up of connected boxes, each box containing either a blue or a red ball. If you move your snake past a large opening in the grid and press the fire button, it will shoot a ball into the center of the grid. On its way through the interior, it will bounce off of numerous gates which flip back and forth (making prediction of the ultimate end of its journey a bit difficult. In the middle of each outside wall is a passage, which can lead you back into the box in another corner.

The object of the game is to *survive* as many encounters as you can, and rack up the highest points. Yes, I said encounters, you have the option of playing against the computer, which controls one of the tubes (as these snakes

are called). You can shoot the balls in the direction of your opponent tube, but must be careful not to run into your opponent (or both perish), and to avoid contact with a red ball while bouncing or a blue ball anytime. If you pass over a "dead" red ball, you or your opponent can pick it up and use it against the opposition. Other options include allowing two players against the computer, or two players against each other (a nice change in video game design).

If you only play this game for ten minutes, you will probably hate it. Controls are not terribly predictable or responsive. It takes a while to learn to shoot the balls, and there doesn't seem to be much point in the whole effort. Play it for an hour or so, and it can easily become addicting, as patterns and strategies begin to develop.

If you want a game with instant gratification; something you can play without looking at the instructions (they aren't too good, anyway), then keep away from Spitball. If, however, you want a game that may take up a good bit of your time (or you've got a computer store that will let you try Spitball for an hour or so), you might just get hooked on this crazy-named game. *—M.B.*

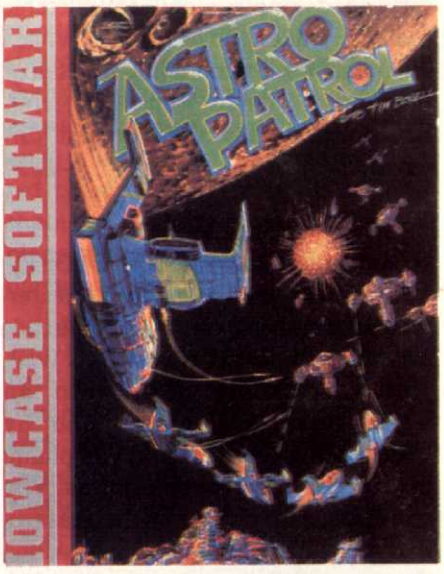
ASTRO PATROL

(Synapse Showcase Software/ VIC-20 Cassette)

Sometimes, I think it might be nice if I could play a game in which I'm an intergalactic peace envoy. No lasers, no smart bombs, no "nuke 'em till they glow," just a lone person uniting the planets in the bonds of brotherhood. I may as well dream on since, as far as software vendors are concerned, the gaming world rotates to the sound of explosions and the sight of spaceships being blown to bits. Not to be left out, Synapse Showcase Software's **Astro Patrol**, a cassette-based slide and shoot for the Commodore VIC-20.

The universe is being invaded again, and it is once more up to you to prevent the aliens from taking over. This time the bad guys are after power pods, little saucer shaped dots that are lined up on the left side of the screen. You, of course, have a spaceship that stands as the universe's only defense against the zig-zagging saucers and laser-pulsing rockets that enter from the right side. Your ship is equipped with rapid fire capability, and is free to maneuver, via joystick control, at will anywhere on the screen. You're courting disaster, however, if you don't hang tough at the left side.

For each wave you can survive, you are awarded with a bonus ship, to a maximum of five. However, instead of placing these ships in a reserve, they are brought on screen as reinforcements, increasing your fire power but also making you more vulnerable to alien attack. Each 1000 points earned adds a smart bomb to your arsenal. As in other games, these bombs, which are activated by hitting the VIC's space bar, obliterate every enemy on the screen. When you have lost all your ships, or if the enemy can destroy all your energy pods, the game is over.



As elaborate as all of this might sound, don't be fooled. Astro Patrol is not a very complex game. The program incorporates a custom graphics set for the visuals that results in the clunky and sometimes confusing movement of the various spaceships. Game play boils down to your basic dodge-and-shoot strategy, with an occasional smart bomb detonation to break the monotony. Actually, since there never seem to be more than two enemies onscreen at one time, the smart bombs, which in other games serve as a quick and easy way of racking up points, seem to be nothing more than useless frills. The only thing that's unique about Astro Patrol is that the aliens are also permitted to earn points. At game's end, their point total is deducted from yours, so it isn't enough just to survive, you also have to keep the heavies from scoring their own points.

It's a nice touch, but it's not enough. While Astro Patrol is not an ineptly programmed game (none of Synapse's games are), there's nothing in it to get excited about, either. It does what it claims to do, and that's it. In a time when gamers have become more and more selective about the games they purchase, Astro Patrol doesn't really stand much of a chance. *—D.P.*

SALMON RUN

(Synapse Showcase Software/ VIC-20)

There ought to be a law prohibiting software vendors from printing "cute" instructions. Take, for instance, the introduction to Synapse Showcase's **Salmon Run** for the VIC-20: "Sammy Salmon has a date he's just got to keep! Far up Wild River, his sweetheart Simone Salmonette is flipping her finely formed fins with worry, impatiently counting the minnows till Silky Sam arrives." Aw, c'mon. . .give me a break!

If you can somehow manage to wade through the slurpy directions and actually get to booting the cassette, what you get in Salmon Run is a survival game in a vertically scrolling obstacle course. Your joystick controls the salmon, left and right to slide the fish horizontally through the twists and turns of the river, forward and back to speed up or slow down the pace of his swim. The action button causes the salmon to leap over the numerous waterfalls, which show up as shimmering horizontal bars that, if not jumped, will restrict your fish's progress.

Sam also has to contend with a variety of natural, and unnatural, predators. Fishermen stand waiting on the left-hand shore, holding out nets that can trap you should you venture too close. Bears appear on the right-hand shore, and will go wading into the river to catch your fish. You can dodge around behind them, but going too close to their mouths will lead to your grizzly demise.

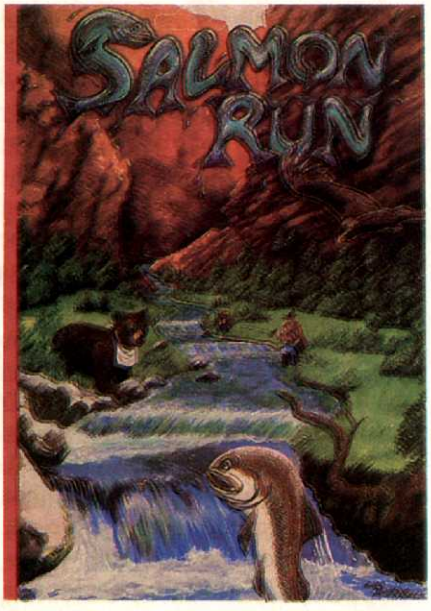
Most perilous of all is the bird that flies an unpredictable, zig-zagging path from the bottom of the screen to the top. With practice, you can learn to dodge this winged foe by making a sudden course or speed change as the bird swoops overhead but, until then, you have to rely on lady luck to keep you out of that predator's talons.

Surmount all the obstacles along the

way, make it to the spawning grounds at the end of the river, and an extra life for your fish is tacked on, a welcome addition since you only have one life to begin with. You then get the chance to do it all over again with more fishermen and hungrier bears and birds.

Technically speaking, David Barbour who translated Salmon Run from Bill Williams' original design, has done wonders with the VIC's graphics and sound capabilities. The jagged shoreline of the river scrolls smoothly down the screen, and the animation of the waterfalls is downright impressive. The game even manages to accurately simulate the sound of a river. About the only weak point in all of this is the fishermen, who tend to blend in with the background, making them a little hard to see.

And the game is not an easy one to beat. Obstacles are well arranged to give you a fair break, but they are plentiful and cunningly positioned. And when a bird appears on screen, you had better be sure you clear each and every waterfall the first time you encounter them. Missing a jump will send you back down



the screen, which is just the opportunity that our fine feathered friend is looking for.

Yet, after a while Salmon Run can get a bit monotonous. There isn't really enough variation in the attackers to keep you on your toes and the effect of the scrolling background becomes almost hypnotic after a time. The problem isn't helped by an extended theme song that plays whenever the game ends and prevents you from starting a new game until it is over. Since you only have one life to start with, expect to hear that song a lot.

Still, I would much rather see a salmon on my TV screen then on my dinner plate. And Salmon Run does feature very good graphics and considerable challenge while its novelty holds. While I doubt that it will make it into the Hall of Immortals, Salmon Run is colorful, non-violent, and, at the very least, different. —*D.P.*

OIL'S WELL

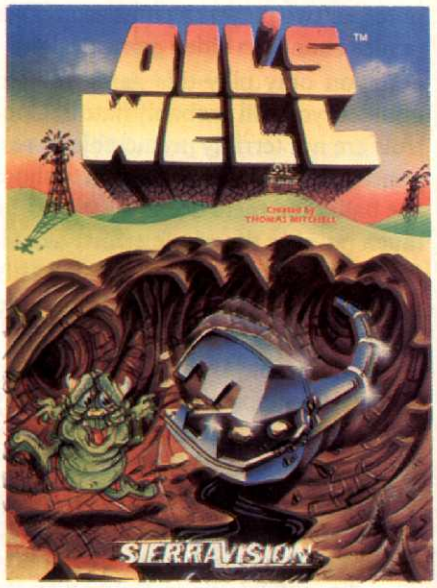
(SierraVision/Commodore 64 Disk)

Oil's Well is an excellent Anteater-type game (giving credit to the arcade machine). In SierraVision's Oil's Well, you are drilling down into an underground oil reserve and by maneuvering your joystick, you plumb ever deeper into the rich deposits. You score points for picking up the treasures that are scattered underground. Along the way are little nasties you *must* touch with your drill bit before they cut through your drill shaft. In effect, what you are doing is drawing a continuous line through the underground maze—the only limitation is that you can't cross back over your line.

In addition to drilling into the nasties, you can earn extra points by getting the blinking goblet which randomly appears crossing your screen. There is also a blinking bomb that appears every so often. Unlike the nasties, both the bomb and the goblet can pass through your drill shaft without causing any damage. If you drill into the goblet, it's worth extra points. Drilling into the bomb costs you one drill bit. In order to retract your bit, you press the fire button and the bit slowly retracts. A journey into the depths of the cave is always risky—your bit can be attacked by any creature in the higher levels, and you can't always get your drill back in time to prevent the nasties from getting to it. To give you a slight edge, there is a blinking dot somewhere near the bottom of each screen. Getting to the dot slows down the nasties, giving you time to clean out the dangerous lower levels.

To make things a bit more difficult, this is a timed contest. If you don't get through all levels of the maze, you lose a drill (staying at the top, racking up points won't work).

Oil's Well is a one player game with exceptional graphics, and sounds that are well integrated into game play. The high score screen is a delight, with your score scrolling from the bottom seeking its rightful place with the other top scores. (There is one problem with the Commodore 64 version of this game—the joystick can also input somewhat random letters. If you want to use the



high score screen, you may have to delete some of the erroneous characters).

Oil's Well is a very good game, deserving of translation from (and into) Atari and, quite possibly, other formats. If you like strategy/maze games, you should like Oil's Well. —*M.B.*

OIL'S WELL

(SierraVision/Atari Disk or Cart)

I've already reviewed the Commodore 64 version of **Oil's Well**, and found the Atari cartridge version to be very similar. It's a very good game on either system. Although the amount of memory used in the Atari cartridge version may be reduced, it makes little or no difference in game play. The screens appear virtually identical and game action is about the same, although the Atari version seems to be a little faster. About the only real differences to speak of are that on the Atari when you select your difficulty levels (Regular, Unleaded, Premium) using the option key; on the 64, the selection is made using the joystick—also, the bombs on the Atari version aren't always red like they are on the 64.

In any case the Atari cartridge is certainly every bit as good as the Commodore version reviewed earlier in this

article. Having this game available on a cartridge was a good idea—it makes the game available to anyone with an Atari computer, whether or not they have a cassette player or disk drive, and it also makes it available to the few 1050 owners whose drive won't load the program properly.

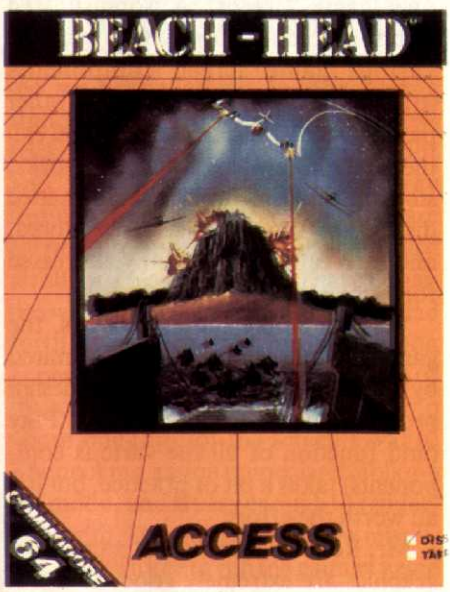
Since we've pretty much covered the subject in the Commodore review, we'll send you back there to read more about Oil's Well. If you would rather not look back, here it is, short and sweet: Great game, many hours of challenge, and certainly won't be sorry.

—*M.B.*

BEACH HEAD

(Access Software/
Commodore 64 Disk)

The object of **Beach Head** is to get your invasion force through a number of defensive obstacles, onto the beach, and finally to destroy the enemy's mountain fortress. To do this, there are three or four screens (depending on the option you choose). When you start the game, you can select difficulty and number of players (one or two), and then maneuver your fleet to one of two landing sites. A landing site inside of a lagoon will involve you in an aerial attack by a great number of planes. Landing outside the lagoon will land you at the opening of a well protected cavern (successfully navigating through the cavern will allow



you to initiate a surprise attack against the enemy, with fewer ships).

The cavern is treacherous—it is well mined, and is patrolled by rapidly moving torpedoes. Moving your controller up makes your ship go forward, pulling backward stops it, any other movement steers your craft. If you bump into anything along the way, your ship is lost.

Having survived the tunnels, you get to the aerial attack. Out in the distance, enemy bomber are launched. Your gunsights can be raised or lowered to select the height and range of your anti-aircraft missiles. Shooting down the planes takes quite a bit of practice. Occasionally, a red plane will fly across the screen—shoot it down for a bonus. For each plane you miss, your ship is further damaged—20 hits and it sinks.

If you survive the air attack, you progress to the enemy ship phase. The object here is to shoot a missile the exact distance require to blow up enemy seacraft. Although it's relatively easy to line them up, setting the right distance is tricky (your gauges tell you how long or short your shot was, you must do rapid calculations to determine the proper firing angle for a direct hit). But be careful, they're shooting back at you.

Once all enemy ships are sunk, you then go on to the land invasion. Your tanks are stacked up at the beach. One at a time they move onto the beach, over bridges, around obstacles, engaging in contact with enemy tanks, and, if they survive all those many obstacles, into position to attack the mountain fortress. In order to destroy the fortress, you must make numerous direct hits on it. It usually takes many replacement tanks to accomplish this. If you succeeded in all phases of the mission, you get the privilege of starting over at a more difficult level.

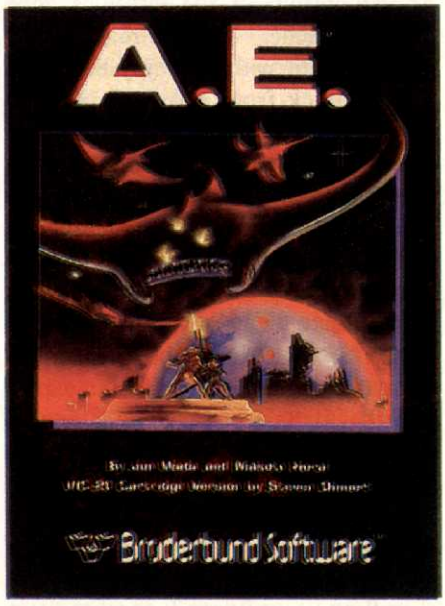
Although the graphics are extremely good, the sounds are even better. When the planes come flying at you, they *sound* like propeller driven aircraft. Explosions sound like typical Access Software explosions, and other naval/aerial noises are quite faithful to what you would expect the real thing to sound like. One of the nice features is that you can tailor the sound of the game to *your own* TV or monitor, and your own 64. Once you get it set so that it sounds best to you, all the rest of the sounds will sound very good.

Beach Head is a good second game effort for Access Software. If you like combat games, this may be a good addition to your game library. —*M.B.*

A.E.

(Broderbund/VIC-20 ROM Cart)

Few people remember that, before Sony, Toyota, et al, became major forces in the American economy, one of Japan's biggest exports was low-budget monster movies. Now, for those of you who still harbor fond memories of God-



zilla, Gamera, and the Smog Monster, Broderbund has released **A.E.**, a ROM cart game for the VIC-20 that is guaranteed to remind you of those many Saturday matinees you spent watching poorly dubbed Japanese actors battle some of the most improbable monsters in screen history.

The plot of A.E. is pure B-movie stuff: A.E.'s are giant stingray-like creatures (A.E. is the Japanese word for "ray") that were designed by the Mitsubishibuku Corporation to control pollution. Unfortunately, quality control at old Mitsubishubuku isn't all it's cracked up to be. As a result, a few defective A.E.'s have slipped through and are now running amok throughout the universe. They don't pose any real threat, but they are, as the instructions explain, a nuisance, "like motorcycle gangs or geese on the runway."

You can assume that Mitsubishubuku's clients have already defaulted on their payments for these creatures, and have sent the Japanese corporation an A.E. I.O.U. All that's left now is to drive these annoying creatures off the Earth and into the far reaches of space, where there aren't any Honda dealerships or airports.

That's your job. As chief A.E. era-

dicator, you must battle the rays through four screens representing the streets of a futuristic city (Tokyo, no doubt). The airspace over the city bears a passing resemblance to Manhattan, a space station in orbit around Saturn, and "the outer wastelands of the known universe" (no pets or children allowed). At the bottom of the screen is your missile launcher, which is maneuvered left and right with your joystick. The A.E.'s attack from above, flying in a serpentine line, ducking in an out of whatever structures are present onscreen, occasionally breaking formation to form two lines of swooping attackers, and frequently dropping bombs on your launcher. You press and hold down your fire button to send a missile travelling up the screen. Releasing the fire button detonates the missile, causing an explosion that remains onscreen for several seconds and takes out any A.E. that passes through it in that period of time.

You can spend all your time just zapping whatever A.E.'s you can get a hold of, but if you want to advance to the next screen, you must achieve three of what the instructions refer to as a "perfect attack." This is when you wipe out all the A.E.'s in a line, before that line can exit the screen, indicated by a beeping sound on the soundtrack. This is not as easy as it might seem for, although there aren't a lot of A.E.'s in a line, the creatures move so fast and they change direction so often, that detonating a missile at the right height to catch all the creatures, takes a considerable amount of timing and skill. If you should manage to clear out three waves of attackers, the scene shifts to the next location, which, in addition to the new scenery, will feature new attack patterns and faster speeds for the A.E.'s. You start out with three launchers, and you'd best be careful with them because the game doesn't award any bonuses.

There's a Galaga-like feel to the twisting, turning movements of the A.E.'s, but fortunately the game is unique enough to stand on its own. The background, while not as elaborate as those for the Atari and Apple versions, are still quite impressive for the VIC. Even better, the A.E.'s actually interact with the backgrounds, dodging behind the buildings of the city screen, rising from behind the setting sun of the Manhattan screen, zipping through the docking bays of the space station, and so on. The effect is enhanced by animation that makes the A.E.'s look as if they're traveling in three dimensions, starting out as mere pinpoints on the horizon, and then taking on their full stingray form as they draw closer to your launcher.

Actually, this could be considered as something of a pattern game. Since each screen feaures its own set of unique attack formations, victory over the A.E.'s is a matter of memorizing the movements of each formation, and then detonating missiles at the spots that you know the enemy will cross. Don't think that it's a lead pipe cinch, however, considering the speed and maneuverability of the A.E.'s in comparison to the lumbering moves of your launcher. But with concentration and a steady hand at the joystick, A.E. can be conquered. I have been able to reach screen three, and I do expect to get to screen four (beyond that the game repeats the four screens at higher difficulty levels).

Some gamers may object to what appears to be the meager size of A.E.'s playfield, the square in which the action takes place being about half the size of the TV screen, but once the action gets going, you scarcely notice it. Between the elaborate aerial acrobatics performed by the enemy, and the unusual missile detonation system, A.E. is both fun to watch and to play. Altogether, a very good variation on the slide-and-shoot theme. —*D.P.*

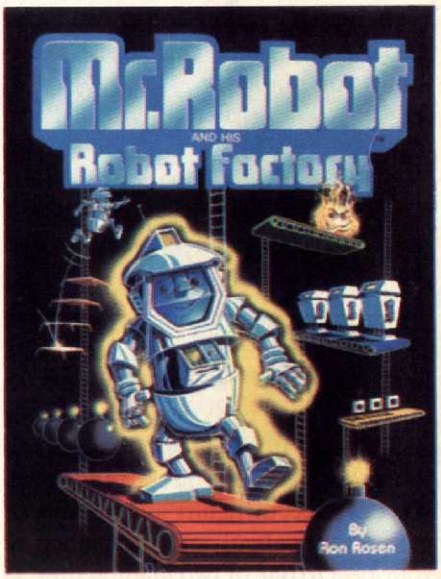
MR. ROBOT AND HIS ROBOT FACTORY

(Datamost/Atari Disk)

One of the best (and most successful) games of 1983 was Miner 2049er. Miner is a game that involves maneuvering your player over a landscape that is riddled with numerous different obstacles. Jumpman, and its brother, Jumpman Jr., was a 2049 er-like game, involving movement through numerous unique obstacle-laden screens. In both games, grabbing certain tokens earned extra points, while other tokens made your pursuers vulnerable. In the disk version of Jumpman, there were more than 30 screens, an addition that greatly lengthened the amount of time it took to easily tire of the game.

But what do you call a game that plays every bit as well as either Miner or Jumpman, has 26 separate screens, and *allows you to design 26 more of your own*? I'd call it great. Datamost calls it **Mr. Robot and his Robot Factory**.

There is no getting around the fact that the play mechanic is rather closely related to the other two games already mentioned. However, the screens and the game mechanics are different enough that even an expert Miner or Jumper will also be challenged by Mr.



Robot just as it comes out of the box.

But when you tire of the stock challenges—when all games begin to bore you—you can use this nifty little disk and do something you probably have never done before: Design your *own* game screens. A sophisticated editing procedure allows you to paint the various game screen components (tracks, conveyors, Robot, and all other parts) directly onto the screen. You can then test the new screen and, if it works, store the new screen onto a preformatted disk. Up to 26 new screens can be stored, and each can be individually addressed for game play.

With an ample supply of disks, the game play possibilities are only limited by your imagination. Editing and design programming is simple to learn. Play (and function of all the various components) takes a bit of practice, but it's all worth the effort.

Mr. Robot is an excellent game. The graphics are extremely good, sound is well integrated (and you can turn it off, if it becomes too much), and it plays well. Add to that the fact that *you* can design your own game as often as you choose, and Mr. Robot may become one

game that you may never tire of.—*M.B.*

MOONBASE IO

(Program Design Inc./
Atari Cassette Soundtrack)

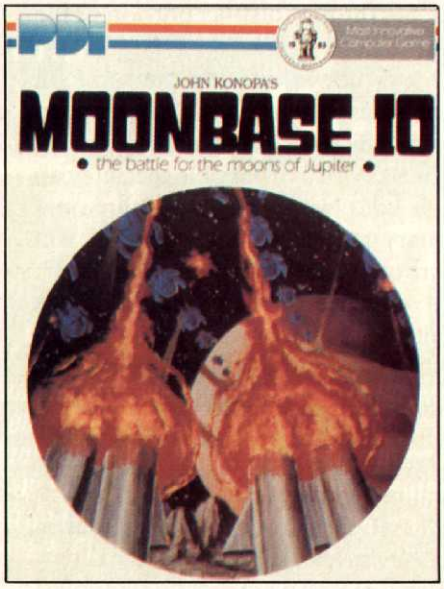
Up to this point, software vendors have made good use of the Atari computers' sprite graphics and four channel sound to create elaborate, sophisticated games. But there is one feature of these computer that not even Atari itself has utilized in the service of better, more detailed games: The ability of the cassette interface to carry a recorded soundtrack that can be played through the TV speaker. About the only company that has taken advantage of this capability is Program Design Incorporated. In the past few years, they have come out with both education and arcade-style games that incorporate narrative tracks recorded on cassettes in order to enhance game play. One of their first arcade-style releases was **Moonbase Io**, a one-player game that is available on either a 16k cassette or a 24k disk accompanied by the soundtrack cassette.

After selecting your initial skill level (there are eight available), you are treated to a musical interlude while the game loads. This is followed by narration which gives you the background of the game: An alien attempt to invade our solar system. It's your job to defend the bases on three of the moons of Jupiter, Io, Europa, and Ganymede, by first rendezvousing with a refueling station on the far side of each moon, and then descending to the moon's surface to protect your installations. In the refueling station screen, you must use your joystick to maneuver your spaceship left and right while blasting your way through the field of space mines that are carried into your path by the downward scrolling screen. At first you have the entire width of the screen to move back and forth in, but soon a portion of the moon appears at either the left or right side of the screen, reducing your area of play to about one-third of the screen's width. The docking station immediately follows the moon, and is easy enough to rendezvous with. Should you somehow miss it, you will be force to run the gaunlet again with reduced fire power.

Once refueled, you are beamed down to the moon's surface where you must defend the six bases at the bottom of the screen from the attacks of the alien invaders. In true Space Invader fashion, you must maneuver your laser base to dodge the missiles of the invaders while blasting them out of the sky. Meanwhile, you must also destroy the giant flowing bricks that a command ship drops to destroy your bases. Each base left standing at the end of the screen, which consists of several waves of invaders, is worth 1000 points. If all bases are destroyed, the attack is intensified to the point where survival is very difficult, if not impossible.

If you can successfully get through three cycles of these two screens, you are permitted to go up against the mother ship. If you can knock out this mammoth saucer's cannons and burrow your way up to its power core, then the mother ship is destroyed and you receive a message of congratulations from "The President" (of what actually is not specified), ending the game.

With its dependence on recorded narration for character, Moonbase Io runs into several problems. One is that the Atari 410 and 1010 cassette interfaces cannot exactly be considered capable of reproducing high fidelity sound. Music, sound effects and narration wind up sounding shrill and tinny, less than conducive to repeated hearings. What also effects the game's replay value is that the writing for the narration is far from original. From the initial load that generates the screen prompting for the selection of a skill level to the first graphic screen, that of a robot moving back and forth before your ship's viewscreen, a total of six minutes is taken to load the program. Yet, only about half of that time is used for narration that does little more than state the obvious: Aliens are invading and you must destroy them. With a little extra effort, those six minutes could have been used to present a mini-play that would have set a mood, and could have held up under repeated hearings. As it is, I think most players, after they have heard the soundtrack the first time around, will select the game option that omits the soundtrack once the game has been loaded.



What's left after you take away the recorded soundtrack is a game with decent graphics and sound. Unfortunately, game play is somewhat lopsided. In most skill levels, getting through the refueling station screen is merely a matter of keeping your ship in one spot and holding down the fire button to knock out any mines that get in your way. By comparison, the survival on the moon's surface, with the constant fire and erratic movement on the enemy, is considerably more difficult. Your best hope in this screen is to duck under the ships, get off a shot, and then duck out before they can fire back. Complicating matters is the fact that your laser base moves so fast that precision aiming is next to impossible.

Making things even more difficult are the numerous technical flaws in the programming. While synchronization between the game and tape are fine during the initial load, subsequent games, in which the opposite side of the tape is used, do not stop the cassette interface at the points necessary to keep sound and visuals in synch. As for the game itself, your missils inexplicably pass through the spaceships at times and, if your missile base is destroyed while on the moon's surface, it has a tendency to rematerialize completely off the screen. It's a situation that more often than not results in the loss of another life.

PDI is to be commended for utilizing a feature of the Atari computers that few other manufacturers have seen fit to exploit. At its higher settings (only rank amateurs should start off at skill level zero), Moonbase Io is fast and challenging. But on the whole, both game play and soundtrack are all too familiar to anyone who has been around video games for long. The tape can speak volumes more than any synthesized voice track.

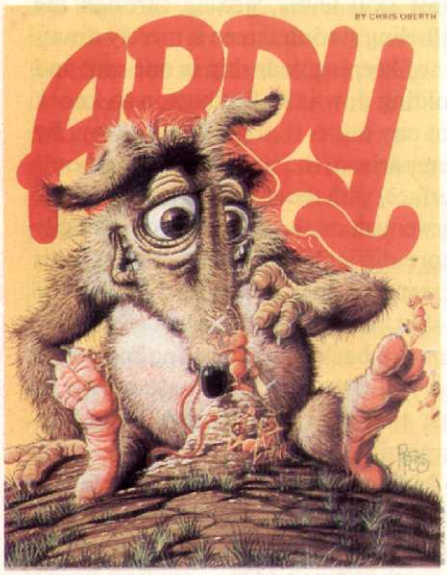
—*D.P.*

ARDY THE AARDVARK

(Datamost/Apple Disk)

Ardy the Aardvark is very much like Oil's Well. The object is to move Ardy's tongue through an underground passage,eating ants,donkeys and others beneath him. However, game play is not at all like Oil's Well.

One of the main reasons is that, although this is a timed contest, there really isn't much of a timer. The only way you know you're out of time is when it's already too late. At that point a spider comes after you along the top row. The only way to stop him is to



touch a power pellet on the bottom of the screen. This clears the screen of all bugs, but before long, the spider's back and you're running out of tongue (so to speak).

Datamost's decision to have the power pellets clear the screen (rather than just slow everything down) doesn't seem to make for as much fun playing as the Oil's Well version. Further, Ardy seems to return rather slowly (even though you know you're in trouble, trying to back out of it doesn't always work).

To its credit, Datamost has made Ardy into a Joyport compatible game. Using an Atari-type controller is a definite help in playing this game.

If you don't have a 64 or Atari, Ardy is about the only game of this genre available for the Apple. Although it isn't Oil's Well, it's still fun.

—M.B.

FLIPSIDE

(Continued from page 56)

amount of success, Zaccaria is back once again and, seemingly, stronger than ever.

At a time when remaining domestic producers of pinball have taken the approach of returning to basics, Zaccaria is delivering games which are loaded with features and many special effects, such as speech and double-level playfields. With Soccer Kings we have just such a game where everything on the board is neatly tied into the main theme.

The action begins with the ball entering down onto the top right area of the field from an elevated track just above. This portion of the board is covered by a clear area above, or mini-playfield, which can only be reached via a center hole at the extreme top of the bottom playfield. However, before we look at this unique design application, let's focus on the main field of action.

There is a flipper at the top right, which can come into play almost immediately once the ball has entered. Just above is a bank of four yellow drop targets and a top placed stationary target. Over at the left, the same configuration has been repeated, providing a hint of the symmetry that is to be found on Soccer Kings. In the middle are three thumper bumpers before one reaches the next distinct portion of the playfield.

Move down, and it's the same on both sides. There's a slightly recessed target which can mean increased point values as well as a possible special or an extra ball. Next is a bank of three stationary targets which, when hit, will score out-hole bonus points, Finish off the sequence of all six and a bonus multiplier value comes into play. Meanwhile, in the middle, with a circular shape, are eight orange roll-over buttons which tie in with the overall scoring as well as the top playfield area. The familiar layout of lanes and kickers, as well as flippers, round out the features.

Last, but not least, on Soccer Kings, is that clear top playfield. As mentioned earlier, players can gain access here by getting the ball to land and drop through a hole situated at the middle and top-most region of the main board. Once done, up to three balls are suddenly released from the left on the upper level. There's a lone flipper at the middle and two widely spaced posts, with a moving target between, to aim at.

The effect is similar to going one-on-one with the goalie in a soccer match as you try to get the ball past for a score. Hit it to the sides, and it will disappear without any build-up in values on the playfield below. Whenever you enter this area, the number of shots you're allowed, will have been determined on how well you're doing underneath as you try to get a maximum of seven goals.

Then, when the game is finally over, it really isn't because Zaccaria has added in another special element to Soccer Kings. Based on the number of goals you were able to score, as well as your total points and how you got them, the game goes into an extended period of 'bonus play' with the time displayed on the right of the backglass.

After just a game or two, the basics of play become pretty obvious, leaving you to master your ability at using the flippers in directing the ball to where you would want it to go.

This extra incentive on the game only adds to the total playability one can experience with Soccer Kings. All the target areas are accessible, with the inclusion of an upper set of flippers aiding the action. Although the playfield is relatively open, with all features placed at the sides, the upper level tends to minimize the sparseness of what to aim for.

Besides some short shots and reverses to the lower targets, there is an opportunity to make some very satisfying, longer traveling hits from the bottom flippers in order to let those thumper bumpers take over or get the top set of flippers back into play.

Even though you might not be that familiar yet with pinball, and are still slightly intimidated by the array of features you see on game to game, for all of the cosmetic effects and the addition of an upper playfield, Zaccaria's Soccer Kings is a challenging machine for both the novice and skilled player alike. After just a game or two, the basics of play become pretty obvious, leaving you to master your ability at using the flippers in directing the ball to where you would like it to go. ▲

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